

COAL AGE

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C. E. LESHER AND R. DAWSON HALL, Editors.

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Is Compulsion Without Regulation Possible?

WHEN Senator Frelinghuysen had his "Coal Industry Stabilization Act" reported out on May 16 he let it be known that his haste was due to a desire to obtain a favorable place on the calendar of the Senate for the bill. He was understood to have been of open mind with respect to changes in the bill and to have agreed to participate in a conference with the representatives of the coal industry and the secretaries of Commerce and the Interior with the idea of perfecting the measure.

The proposed conference has been held. It is but a recitation of history to state that it was not until the end of the second day's conference and not until every attempt to provide a substitute measure had failed that the coal men came forward with any suggestion for consideration of the details of the bill. The first statement of the coal men at the conference was to register opposition to the bill as the beginning of regulation of the industry. The Senator maintained that the bill is in the interest of the coal industry and appeared surprised that such definite opposition should develop at this late date, indicating that he had supposed that the coal men in part at least would not oppose the principle of the legislation although they might question its details.

It will be recalled that on May 4, and therefore before the verbiage of the present bill was known, Mr. Morrow, vice-president of the National Coal Association, appeared before the sub-committee of the Committee on Interstate Commerce of the Senate and said, with reference to the proposed measure, "It is the belief of the men who make up the executive committee of the National Coal Association that current collection and publication of business-like information as to some features of the coal industry by a practical branch of the government can be very helpful to the coal industry itself as well as to the public. With the competitive conditions that exist in the soft-coal business—I speak only for bituminous coal—we have always felt that with such information and with the regulation of transportation under the emergency powers vested in the Interstate Commerce Commission, no regulation of the coal industry would be needed. We are opposed to regulation of the industry by the government. This bill contemplates the collection of certain information. . . . If the coal industry could be satisfied that this is an honest and sincere effort to get uncolored facts, without a desire to use facts to bolster up some theory of regulation or control that someone may want to advance, I think the industry would welcome the collection and publication of practical business information." In view of this statement the position of the representatives of the bituminous coal operators at the conference in complete opposition to the bill would indicate their

belief that Senator Frelinghuysen's measure is in fact regulatory.

The coal wholesalers have been uncompromising in their opposition to this or any other bill with respect to coal. Any legislation that contains the word coal has drawn the fire of George Cushing. The Senator need have no surprise that the jobbers offer no support to his program. The retail dealers and the anthracite operators, so far as we are aware, had not, prior to the conference in Washington, given public expression to their position on this particular bill, although both were definitely on record as opposed to any form of regulation of the industry.

As the situation now stands we have on the one hand Senator Frelinghuysen, who contends that his proposal is not regulation—that it is in the interest of the industry—and that some legislation is absolutely essential now to forestall regulatory measures later when and if coal prices again go up. On the other extreme are those, as the wholesalers, who favor nothing except letting things be as they are, figuring that if and when the demand for regulation again arises, as it did last winter, they can again beat it. In between we find Secretary Hoover, who has merely asked for certain data to be furnished to the government, without being particular as to how or through whom it is supplied, and who does not favor any form of regulatory legislation, and the conservatives in the industry—the operators, bituminous and anthracite—who see the value to them and to the consumer of current publication of much more data on coal than are now available and who are willing to go to considerable length to provide that data, but who are not willing to submit to compulsory fact-finding, which they consider a form of regulation.

The peculiar thing about the situation is that save Senator Calder, none taking part in the conference wants to regulate coal—the Senator from New Jersey is vehement in his denunciation of that process—and yet they failed to get together. The issue appears to be whether there shall be a coal bill. A coal bill can be drawn that will provide for the submission of reports on a voluntary basis and likewise provide for the special investigations such as that pertaining to zoning, standards of coal, central purchasing by the government and the other pet ideas of Senator Frelinghuysen—a bill that the conservative, constructive element in the coal industry can accept without fear. Statutory zoning, definite standards of quality for all coal sold and central purchasing by the government are not practicable, and we are satisfied that special investigations by any agent of the government will so demonstrate. It is not these fanciful schemes that make the Frelinghuysen bill objectionable. It is not even that the bill provides for compulsory reports that causes many to oppose it, although we consider that the worst feature. Compulsory fact-finding is unnecessary and is regulatory.

It should be eliminated from any measure considered by the coal trade.

The big question is, Where does this kind of legislation lead? The extremists in the coal industry say that *any* coal legislation now will lead inevitably to regulation. Senator Frelinghuysen, also an extremist, says that *no* coal legislation now will lead inevitably to regulation. Since if either is right, then both are right, the coal trade has a ticklish decision to reach, and that, seemingly, at once. Whatever hope we had that the conservatives in the coal industry would be able to effect such changes in the pending bill as would make it non-regulatory and simply the fact-finding measure to which they are committed, was dispelled when the conference in Washington was turned into the "town hall" meeting that it was announced in advance was to be avoided.

The essence of the present situation is that the Senator from New Jersey is determined to have a coal bill bearing his name and that there is no administration policy on coal legislation that will support him in getting through Congress any bill to which he cannot get some measure of support from the business men in the industry.

The easiest position to assume and to maintain is that of the "bitter ender." It is not difficult to oppose everything, concede nothing and, if eventually beaten, to say "I told you so," but to be constructive, to work out a satisfactory "association of nations" without joining a "league of nations" is a task of no mean dimensions. There is a large element in the coal industry, having large investments, that believes the public relations of the coal industry are not all that could be desired and that the way to improve them is by giving the consumer more information. In the contest on the pending legislation that is next to come on the floor of the Senate it remains for these men to show that Senator Frelinghuysen is at once promising the voter regulation of the prices he pays for coal and the coal man no regulation of the prices he may charge.

We entertain the hope that somewhere along the line a way will be found to centralize and increase the information of the government and the consumer about coal and that the principle on which it will be done will be education and not compulsion or regulation.

Laudable Propaganda

WE RECOMMEND every seller of coal to turn back to our issue of June 2 and Mr. Sampson's analysis of the coal-purchasing agents' state of mind—not that we subscribe to all that he has to say about the coal trade but because he said a lot of things every shipper should ponder on. There also would seem to be some things on which the professional coal buyer should ponder before he accepts as final the conclusions of Mr. Sampson.

We believe that all the coal trade has a right to expect—and it at least has the right to expect that much—from the consumer of coal in the present depressed condition of business is that stock piles be not allowed to shrink below the normal expressed in terms of days' and weeks' supply. That is, a plant that normally requires one thousand tons per day and would ordinarily carry thirty days' supply, or 30,000 tons, on hand, but is now using but five hundred tons per day should not allow its reserve to drop below 15,000 tons.

If the coal trade has been urging the buying of coal—propaganda, if you will—because of possible shortage next winter, the persuasion is really in the best interest of the consumer. The coal industry when afflicted by a car shortage next winter or next year, or whenever it comes, will be as powerless as the consumer to increase output. There is just one party in the game that can prevent acute shortages and that party is the consumer, for whom the purchasing agent is the contact with the coal industry. Coal is but one of the subjects on which the professional buyer must be expertly informed, as Mr. Sampson points out, but bituminous coal is one of the commodities with respect to which the economic law of supply and demand sometimes fails—when the link of transportation breaks.

Must I Do It Myself?

A GENERAL manager in a state with small mines bitterly lamented the fact that the tonnage at none of them could be brought beyond a certain low figure. His interpretation of the phenomenon was that the psychology of the average employee was against a large output—he thought in hundreds not in thousands. The men protested they were doing well when the output was still low.

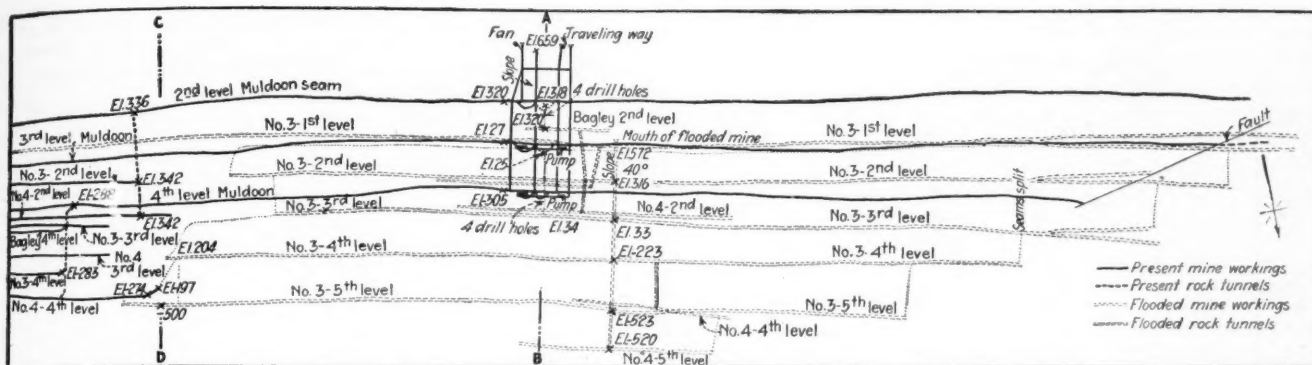
Perhaps a truer story was that no mining background existed. Every man on whom the management had to rely was a novice. The superintendent and the foreman, if they would have anything done must do it themselves or stand by and see it done. Perhaps the foreman and superintendent did not have that class of ability, so there was no one to do the work, and it was left undone or half done.

But in a mine where the superintendent is expert in the line of his duties, the foreman in his, the pumpman in his and all down the list there are men able to do what is to be accomplished matters move along easily. The management does not question: "Must I do it myself?" Each man has the knack that goes with his line of work, and the business moves forward efficiently.

There must be a background of training and experience for success. Every plant must be able to draw to itself talent of that kind. Wages being more or less standard the choice of employment will be based on kindly treatment, comforts and advantages, and the mine which has these to offer will get the pick.

The Wisconsin Steel Co., as is shown in the accompanying article by N. O. Irwin, attracts the best and by training makes it still better. Education is absolutely needed for success in operation. Though it may be difficult to teach all the men in all the trades around a mine with the limited knowledge superintendent, foremen, engineer and village schoolmaster possess, yet the instruction provokes thought, and thought mixed with experience creates knowledge, and the school does its work in the end.

Until the mine is full of experts who all in some particular lines have the better of the superintendent and who are self starters we cannot have successful plants with large output. By schools and by patient instruction we must get the mines beyond the stage where "If I want it done right I must do it myself"; instead we must have as an ideal "If I want it done right I must leave it to the man whose business it is to do it." To that end we must attract the right men and give them—if they do not have it—the needed background of training and experience.



NEW AND OLD NEWCASTLE MINE IN KING COUNTY, WASHINGTON

Old mine is in the upper measures—No. 4, No. 3 and Bagley. New mine is mostly in the Muldoon but is driven in these three measures also.

Old Newcastle Mine, Flooded and Filled with Washery Waste, Is Drained by Diamond Drillholes

Fire in Old Workings Made Flooding Necessary—New Mine Opened in Seams Extending Below Old Mine and Extensions Proposed in Seams Formerly Worked Compelled Company to Drain Water

BY H. S. ASH*
Newcastle, Wash.

ON THE eastern shore of Lake Washington, in King County, Wash., twenty-two miles by rail from Seattle, from which it may be easily reached by automobile, lies the old Newcastle mine. This operation was shut down on Dec. 17, 1894, on account of a fire in the pumproom on the first slope level, or what is now known as the second level. This fire got beyond control; the mine was promptly flooded and has never been reopened.

When in 1906 it was discovered that a bed of coal called the Muldoon was workable the present Newcastle mine was started in this measure, and it is still in operation. For years the fine coal and reject material from the preparation plant was dumped into the slope of the old mine, and this has proven one of the great difficulties to be overcome in dewatering the old workings. It was feared at first that when the water was removed from the old mine, fire would again start from spontaneous combustion. Thus far this has not occurred, and it has been found that the old mine is filling with blackdamp, so that, unless a circulation of air is set up, no fire is likely to be kindled in the old operation.

At present the Newcastle mine produces about 900 tons of coal per 8-hr. shift, 300 men being employed. The coal mined is sub-bituminous and finds its principal market in the Puget Sound cities and contiguous territory. The fine material is now utilized in the manufacture of briquets and for making powdered fuel instead of being rejected. The property is owned and operated by the Pacific Coast Coal Co., of Seattle, Wash.

DRIVE TO BOUNDARY AND WORK ON RETREAT

The old mine, which stratigraphically is about 400 ft. above the Muldoon bed, was dewatered in order to remove the hazard its presence involved in the working of

the coal beds of the new mine and to make possible the reopening of the beds of the old mine, which are among the best in the field. Four workable beds are present. They dip on an average 40 deg. and are separated by the usual shales and sandstones. The distance between the beds is shown in Figs. 1 and 2. The combined thickness of coal in the measures is about 27 ft. Before the overlying beds can be worked from the present slope, it is necessary to go safely under the old mine beyond its extreme limits. As may be seen in the map, only a comparatively small area of the No. 3 and No. 4 seams can be worked without dewatering the old operation.

The old mine was driven to the fifth level, or one level deeper than the present operation has reached. This level of the old mine, therefore, will have to be dewatered when the present slope workings have been driven to a corresponding depth. The method followed in working the beds in this operation is to develop one level while the one above it is producing coal. The developing level is driven to the boundary and the mine operated on the retreat. It takes, at the present rate of development, about five years to reach a level and drive to the property limits. The level workings are approximately 13,000 ft. long.

OLD MINE HAD DEVELOPED THREE COAL BEDS

Although dewatering was contemplated for several years, it was never actually attempted until the early part of 1920. The delay was the outcome of several reasons, among them the cost of the power used in dewatering and the liability that fires in the upper bed would result. In the autumn of 1919 the Newcastle mine was electrified, and all the energy necessary could then be obtained from a hydro-electric plant. Because the second and third levels of the old mine were worked out, sealed off and caved, it was necessary in these

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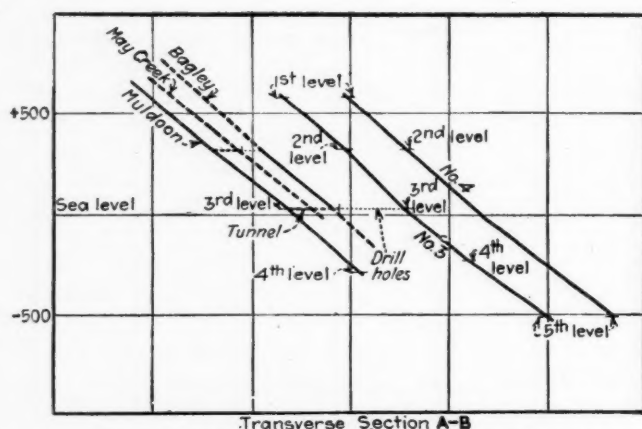


FIG. 1. TRANSVERSE SECTION OF STRATA ON LINE AB
The levels to which any one given number is assigned in the different beds are opened up at approximately the same elevation and not at equal vertical distances from the mine opening. Thus a bed may have a second level and no first. In fact only No. 3 in the old mine has a first level. This section shows two of the three series of diamond drillings—those near the main slope.

instances to drill the drainage holes to the old mine from a point near the slope landings on the Muldoon seam.

In the order of their occurrence, the beds found are the No. 4, the No. 3, the Bagley, the May Creek and the Muldoon, the last of which is the underlying bed and the one on which the haulage slope and main airways are driven, and on which the output of the new mine almost wholly depends. The measures worked and flooded in the old mine were the No. 3, the No. 4 and the Bagley, the principal one being the No. 3. Of the Bagley bed only a small portion was worked on the second level, and only the slope and airways in the Muldoon bed are driven under these old workings. The May Creek bed has not been worked in any of the slope operations in this coal field.

For the purpose of drilling the holes a prospecting diamond drill, type B, manufactured by the Sullivan Machinery Co., is employed. It is driven by air supplied from the mine compressors located on the surface. The hydraulic cylinder of the drill is connected at each level directly to the column-line pressure of the present mine.

The Bagley bed was worked only at the second level and was not opened out to any large extent. The operations in this bed being so restricted it was possible to reach it only by drillholes driven from a point near the slope of the new mine, which, as will be noted in the frontispiece, is not far from the slope of the old mine. The workings in this bed were the first tapped. This measure overlies the Muldoon seam and by a rock tunnel is connected on the second level of the old mine to the second level of No. 3 bed. Thus the water in this level, if not in some way blocked as suggested later, is connected with that in the rest of the old mine workings.

LARGER AND STEEPER HOLE MAKES JOB EASIER

The May Creek bed lies about midway between the Muldoon and the Bagley measures. It is a dirty coal averaging about 4 ft. in thickness. In order to avoid bringing the water into the coal bed, as well as to obviate casing the holes through it, it was decided to drive a rock tunnel through and beyond this seam and to within 50 ft. stratigraphically of the Bagley workings in the old mine.

Accordingly this tunnel was driven 7 x 7 ft. in dimensions to the point above indicated, and boreholes were drilled from that point to the Bagley seam. The first

hole was driven level with a bit which makes a 2-in. hole. It tapped the water successfully, the pressure being 97 lb. per sq.in. While going through the footwall of the Bagley workings the hole frequently caved, and the bed of clay which underlies the Bagley seam also gave trouble. In going through the broken ground in the footwall of the old mine a steel bit was employed.

It was decided to drill the succeeding holes larger, and accordingly the machine was equipped with the N size of rod and a single-tube core barrel, the holes being drilled 3 in. in diameter. This increased the pressure on the bit, and difficulty was encountered in getting the rods out of the hole, for the water forced the cuttings and loose rock between the rod and the sides of the opening. The second hole was driven at a pitch of $3\frac{1}{2}$ deg. upward, which facilitated operations, the hole keeping itself clean much more easily.

It then was decided to drill the next hole with B rods, which are about 2 in. in diameter, but still to employ the N size of single-tube core barrel, which is approximately 10 ft. long, thus making a 3-in. hole with a small rod. This arrangement worked well, and the rest of the holes on this level and in fact all those on other levels were drilled in this same manner.

WATER PRESSURE CONTROLLED BY CHUCK ALONE

In all, four holes were driven in the Bagley bed, the shortest being 90 ft. long, and the longest, where the mine was found caved, 120 ft. It was found that by drilling with the small rods and large core barrel on a pitch of 3 to 7 deg., the holes cleaned themselves without difficulty and that the pressure was relieved to such an extent that in many instances when taking out the rods it could be controlled by the chuck of the drill alone, even when tapping the water at a pressure of 217 lb. per sq.in. No gland was necessary to keep the water back, nor should one be used, as this device rather maintains the pressure than relieves it. Four holes totaling 440 ft. were drilled on the second level, tapping the water at a pressure of 97 lb. per sq.in.

The second point chosen as the location for another series of drillholes was on the third Muldoon level at a point near the main slope of the new mine. Here a 7 x 7-ft. rock tunnel 200 ft. long was driven slightly upgrade. It reached and passed the Bagley bed at a point beyond that part of the bed in which coal had been mined. The Bagley seam was worked in the old mine only on the second level, as it was dirty and was with difficulty kept open. Consequently it did not tap any water. The tunnel ended at a point 319 ft. on a horizontal line from the old mine.

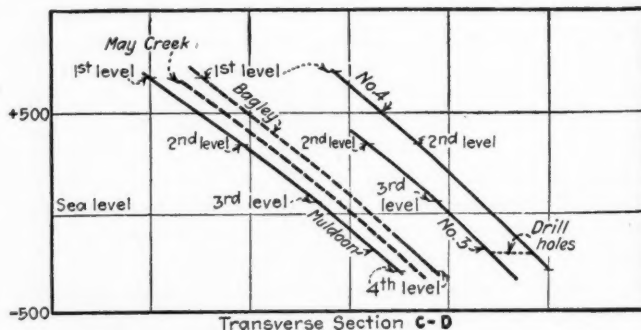


FIG. 2. TRANSVERSE SECTION OF STRATA ON LINE CD

This section shows the drilled connection between No. 4 in the new mine and No. 3 in the old mine. These drillholes were driven into the No. 3 bed through the roof, or "hanging wall," which, being unfractured and free from clay, can be penetrated with little trouble. Taking the water from the roof and remote from the filled slope will prevent the drawing of silt from the mine.

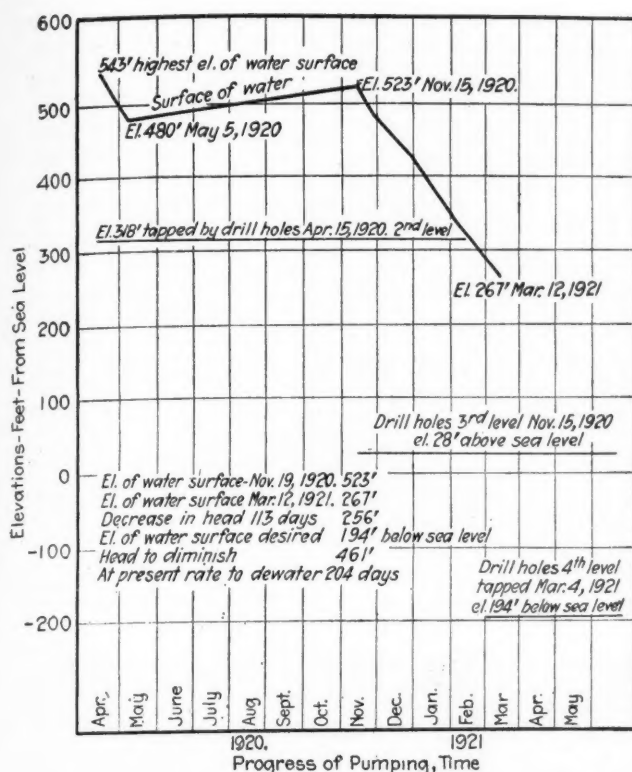


FIG. 3. GRAPH SHOWING PROGRESS OF PUMPING

The water which before pumping stood at 543 ft. above sea level, only 29 ft. short of the level of the mouth of the mine, had already dropped to 267 ft. (or a drop of 276 ft.) on March 12, 1921. It fell 256 ft. in 113 days. The intention is to lower it to a point 194 ft. below sea level, or 461 ft. more, which, at the present rate, would take 204 days.

Here the rock was found to be solid and four 3-in. holes were driven with the N core barrel and bit, using the B rods. Caved ground was encountered in the footwall of the old mine at the third level. The holes were driven with a rise of $3\frac{1}{2}$ deg., so as to reach the old workings about 10 ft. above the old gangway. They all holed through at about 319 ft. and the pressure was found to be 217 lb. per sq.in.

The last 20 ft. of these holes was put in with a steel bit 3 in. in diameter. The ground underlying the footwall of the No. 3 bed in the old mine is chiefly coarse-grained sandstone, which was thoroughly saturated with water. These holes consequently made much water when they arrived within 30 ft. of their collars. The total length of the four holes driven by the diamond drills from the end of this rock tunnel was 1,276 ft.

LAST DRILLINGS WERE FROM NO. 4 TO NO. 3 BED

When this work was completed the drill was moved to the fourth level of the No. 4 seam, which had been reached by a rock tunnel driven beyond and eastward of the old workings. The location of this work can be seen by looking on the left side of the frontispiece near the lower end of section line CD. Here five holes of an aggregate length of 1,300 ft. have been drilled, all being 3 in. in diameter. The holes that have been completed were driven in like manner to those on the third level. They average 260 ft. long. The first hole tapped the water at a pressure of 210 lb. per sq.in.

In order to obtain a solid face, the rock tunnel was driven 21 ft. into the footwall of the No. 4 bed. It was decided to make the boreholes strike about 100 ft. from the face of the fourth level of No. 3 bed in the old mine. To do this by a tunnel and drillholes driven at right angles to the direction of the level would have

involved the extension of the fourth level of bed No. 4 in the new mine. This, however, would have delayed operations. Consequently it was decided to drive the rock tunnel and boreholes on a line which struck the level at an angle somewhat less than a right angle. This meant a somewhat greater length of borehole but considerably decreased the time required to complete the work.

THESE FOURTH-LEVEL HOLES WILL NOT BLOCK

As has been stated previously, the old mine was allowed to become full of water, after which culm was dumped into the slope for years. Difficulties having been experienced from the coal blocking the holes on the second level, it is assuring to the management to know that those now drilled on the fourth level of No. 4 bed are placed at a point farthest from the slope of the old mine and so pass into that mine through the hanging wall and not the footwall. The difficulty experienced from loose material will thus be averted. The first 60 ft. of the second hole passed through sandstone saturated with water, rendering the workings wet. The water soon drained off, however, and the remaining 180 ft. of the ground between the No. 4 and No. 3 beds was found to be a fine-grained sandy shale through which water would not pass, with the result that the hole was dry.

Although the existing maps were known to be in error, it was decided to accept the elevations as correct. The first drillhole proved that the horizontal projection had been erroneously located about 50 ft. This hole was driven so as to enter the old mine about 20 ft. above the probable floor of the gangway. At a point 2 ft. from the old mine, notwithstanding the pressure of 210 lb. per square inch on the rock, the hole was dry.

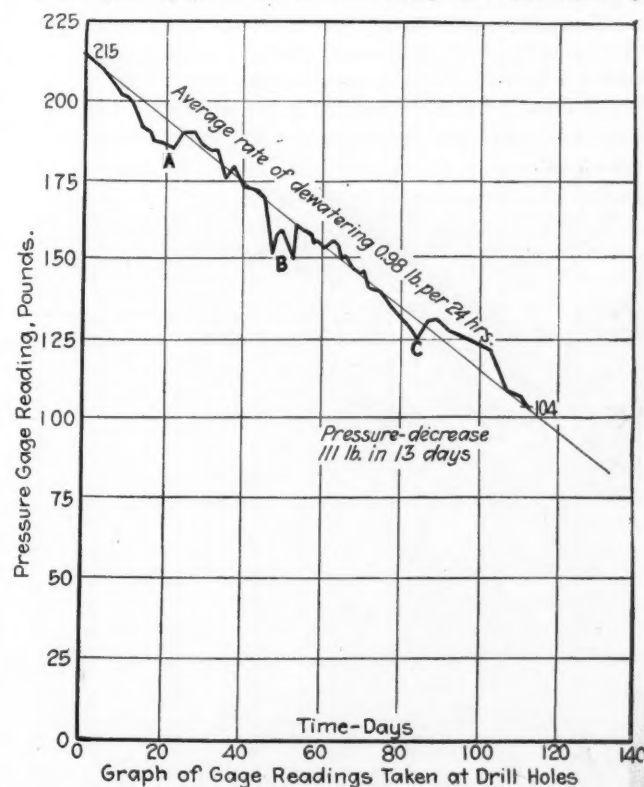


FIG. 4. GAGE READINGS AT DRILLHOLES

At A, B and C the fall in pounds was unusually rapid but did not continue. In fact the pressure rapidly rose. This is explained by the breaking of natural silt dams within the mine which on rupture caused the inundation of the lower-pressure area with water from points where the pressure was greater. After every such readjustment the water was unusually full of silt.

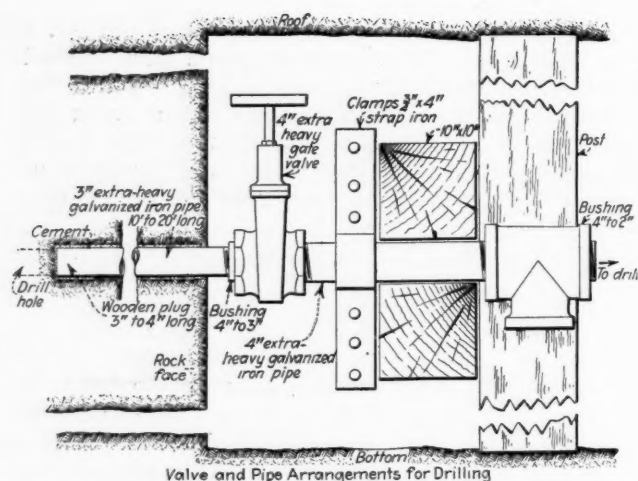


FIG. 5. VALVE AND ARRANGEMENTS FOR DRILLING

The large gate valve is provided so that the core barrel of the drill may be withdrawn from the 3-in. hole without injuring the valve seat. The casing is sunk into the rock 10 ft., except in the fourth level, where the pressure is greater, the sandstone is softer and the coal seam nearer, necessitating protection against leakage around the pipe. Here the casing is 20 ft. deep.

No water became noticeable until within 1 ft. of the old workings, where the drill was stopped for half an hour. Even then the water was not troublesome, but when it was shut off from the rod, a small amount continued to flow. The drill broke through after being driven 1 ft. further. The rods had been pulled when within 4 ft. of the old mine, and the core barrel cleaned, so that there would be no probability of the hole becoming blocked. This hole was drilled from start to finish with a diamond bit of N size.

Experience here gained has clearly shown the benefit of drilling into the hanging wall instead of into the footwall, as there is then no broken ground or dirt to pass through. Although fine coal came through the hole the drill was driven a short distance into the measure after the boring proper was completed. This hole has clearly manifested that when driving toward an old mine, danger can be avoided only by keeping drill-holes ahead.

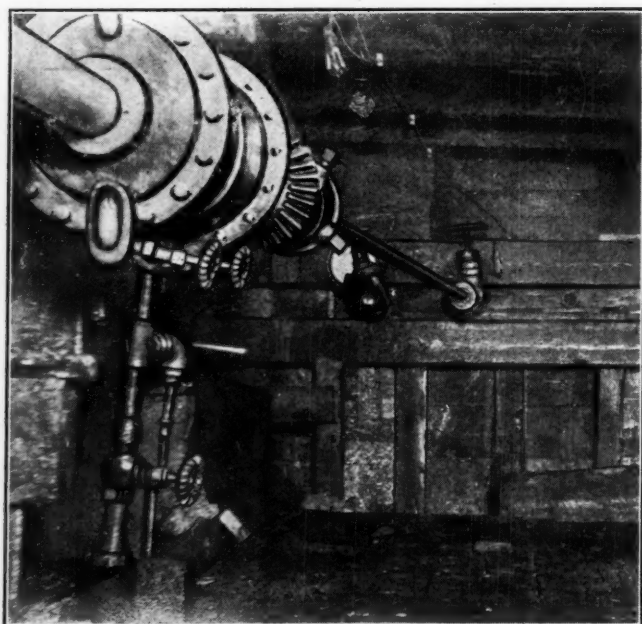


FIG. 6. DIAMOND DRILL AT WORK

The drill is boring in the second hole of the fourth-level series. Note that the drilling is done through the valve, which has to be made of ample size for that purpose. Owing to the perspective the slight upward inclination of the drill stem is not noticeable in the illustration.

In putting the rods into the hole under pressure, or in moving them there, the drill drum with rope and brake is employed. The cable is run from the drum to the face or rear of the machine around a sheave and is then attached to the rods by clamps. The rods are taken out or put in place in 10 or 20 ft. lengths, depending upon conditions.

Preparing the face for drilling is described in the following paragraphs and is shown in Fig. 5, which depicts the pipe arrangement. A casing must be put in the hole for a short distance, to which the control valve is attached. For this purpose the hole is driven with a 3-in. bit for 10 to 20 ft. At this mine the casing holes in the upper levels were driven 10 ft. and in the fourth level 20 ft., the additional length in the latter case being allowed because of the softness of the sandstone and the proximity of the coal seam. The casing hole is next reamed out with a diamond bit throughout its entire depth, so as to allow a 3-in. pipe to be concreted into place.

In this mine galvanized pipe was employed for this purpose, the expectation being that the galvanizing

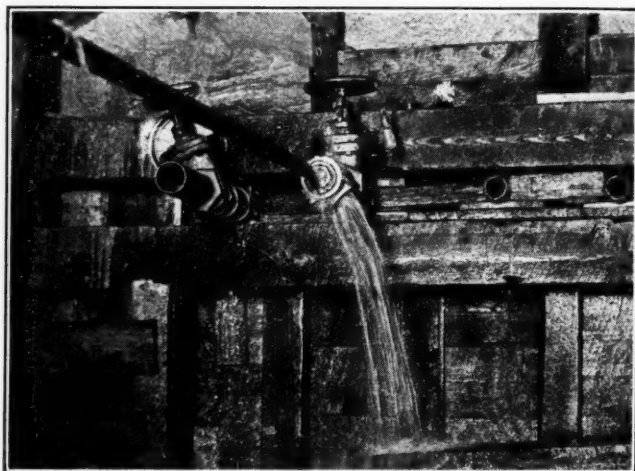


FIG. 7. DIAMOND DRILLHOLES AT THE FOURTH LEVEL

One hole is drilled and fitted with gage—that on the left. One hole is being drilled, and in the two others the casing has just been fitted. In this instance the spalling off of the rock made it advisable to concrete the face behind the bracing timbers.

would protect the pipe from the acid mine water. For all pressures greater than that found on the second level extra-heavy pipe and valves were employed. When the hole is reamed out a wooden block 3 or 4 in. long is inserted in the end of the pipe, to be drilled out when the hole is driven past the casing, and the hole is then filled with cement mixed with enough water to render handling easy.

As much of this grout as possible is forced into the hole. In this instance it required about one sack of cement to a 20-ft. casing hole. Next by means of the hydraulic cylinder, the 3-in. pipe with the above-mentioned wooden plug in its end is forced into the hole, driving the cement backward around the outside of the pipe. When the pipe has been driven to place, a valve is put upon its outer end and the whole allowed to stand until the cement has set. This requires from four days to one week.

Usually pipes are put in place simultaneously for each of two drillholes before the first is driven through, after which the remainder of the holes are put in. This procedure was followed in order to forestall the possibility that the fractures in the rock might cause such

a leakage of water from complete to incomplete holes as would prevent the placing of the remainder of the casing pipes. A clamp is placed on the pipe. A 4-in. valve is used in order to allow the core barrel to be withdrawn from the 3-in. hole without injuring the valve seat. A bushing to fit the rod and steady it is employed in the outer-run opening of the 4-in. T placed outside the valve. After the rods are removed the valve is closed until it is time to let the water run. The T also is taken off and moved

to the point where the next hole is to be drilled. The valve is fastened directly to the casing pipe, so as to have as few connections as possible. On the fourth level the soft rock in the face kept spalling off, and after the first hole was drilled it was considered advisable to concrete the face behind the bracing timbers. Accordingly this was done, the valve being placed outside the timbers as shown in Fig. 5.

The ground drilled in the operation above described was mostly soft sandstone and sandy shale. The average rate of drilling was 48 ft. per day of eight hours. Drilling operations were conducted by one drillman and two or three assistants. The cost of drilling, not including diamonds, was 53.3c. per foot. In this instance only one set of diamonds, eight stones in all, was used. The cost per foot for diamonds has been 13.2c. Drilling was done by C. D. Sellers, and the success attending the operation has been largely due to his efforts.

When the old mine was in operation approximately 300 gallons per minute entered the workings. According to weir measurements for 113 days, 700 gallons have been handled each minute during the twenty-four hours of each day. Thus, at a conservative estimate, 113,000,000 gallons of water have been voided. The old mine above the fourth level is, therefore, nearly one-third empty.

In the present operation the water varies from 1,200 gallons per minute in the wet season to 500 gallons per minute during the summer months. All pumping is done from the third level, with the exception of the water voided from the fourth, which at present amounts to 500 gallons per minute for eight hours out of each twenty-four. The pumps are designed to accommodate varying heads, and later the water voided below the third level will all be pumped from the fifth level to the third level pumps.

From experience in the inclined beds of western Washington it has been found that in nearly all instances when a level is worked out, even though chain pillars over 100 ft. thick are left in place, the rock between the seams breaks and the water sooner or later finds its way to the next level. It is not within the

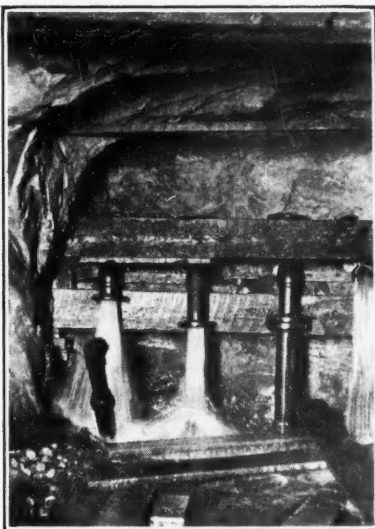


FIG. 8. DRILLHOLES DISCHARGING IN OPEN

The wheels of the controlling valves can be seen over the top of the balk of timber. As a rule the water is not allowed to run into mine but the pipes are connected up with the centrifugal pump so that the pressure may assist in its operation.

means of most companies to leave a sufficiently large chain pillar to retain this water, the coal left in such a barrier being lost.

To handle the water that the mine is now making and will make, three centrifugal pumps manufactured by the Allis-Chalmers Co. are installed on the third level and one on the fourth. Another machine is employed for dewatering alone and will form part of the pumping equipment at a lower level. These pumps are of 500 gallons per minute capacity against a 700-ft. head. They are driven by 150-hp. motors using alternating current at 2,250 volts.

Pumping was begun on the second level on April 15, 1920, at a pressure of 97 lb. per sq.in. On this and other levels so long as the water entered the pump under pressure the suction end of the pump was connected directly to the holes, a strainer in the suction pipe keeping out solid material. The holes are then allowed to run into the open, and the water is drained to the regular mine pump. As the drilling advances, the pump is moved to a lower level.

On May 5, 1920, the water was all out of the second level in the Bagley bed. The pump connected directly to the holes sucked a vacuum, showing that the Bagley was sealed off from the No. 3 bed. The seal doubtless was formed by the saturated refuse and slack that had run into the old mine. Culm and water had been pumped for a day or two prior to this occurrence.

On Nov. 19, 1920, arrangements were completed for pumping in the third level, the progress made being shown in Fig. 4. It is expected that in course of time the holes on the third level will be plugged by the slack as the water lowers, and for this reason holes are placed at the east end of the old mine on the fourth level, as shown on the map. They cannot be plugged at this point.

Referring to Fig. 4 at points A, B and C, it will be noted that the pressure changed violently. This occurred at regular intervals, and at such times the pressure would fall rapidly, then rise almost instantly. The water coming through the pump would be extremely dirty and contain culm for several days, after which it would run clear again. This seems to indicate that the culm left in the slope blocks on one side of the mine, and after the water is lowered on the pump side for a certain distance this dam gives way and equalizes the pressure, simultaneously causing the water to be dirty. At the present rate of dewatering it will take 204 days to lower the water to the fourth level. This pumping problem is shown in Fig. 5.

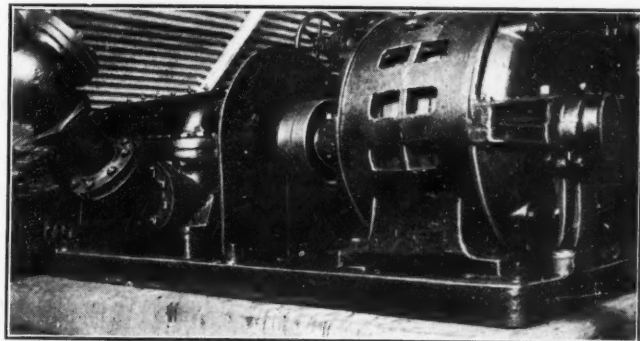


FIG. 9. CENTRIFUGAL PUMPS FOR DEWATERING

Three of these 6-stage pumps are installed on the third level and one on the fourth. This is one of those on the third level. The pumps lift 500 gallons per minute against a 700-ft. head, being driven by 150-hp. motors and using alternating current at 2,250 volts. Another pump of the same size takes care of the dewatering of the old mine.

Rotary Car Dump That Operates Solely by Gravity

Gravity, Springs and Flywheels Discharge Cars by Revolving Them Through Approximately 135 Deg.—Cars Can Be Dumped in Full Trips, Hence Swivel Couplings Are Not Needed

VARIOUS types of rotary car dumps are used for discharging the contents of mine cars. The power employed usually is compressed air, steam or electricity. Rotary car tipples have a great advantage over those of the end-dump type as they permit the use of cars having neither drop bottoms nor end gates. This detail of car construction reduces the quantity of material which is scattered along the haulageways by cars of other types. It also eliminates the trouble arising from an accidental opening of the doors when cars are traveling at high speed. Solid-body cars are lighter, cost less for repairs, are more rigid, have longer life and lower initial cost than those of other types. An entirely new design of rotating tipple has been placed on the market by the Wellman-Seaver-Morgan Co. This machine does not require any power for its operation other than that furnished by gravity. This device is known as the "rollsrigh" car tipple and its construction and method of operation afford simplicity of construc-

tion, with resulting lower first cost; ease of operation, permitting the employment of unskilled labor; lower maintenance charges, and increased production.

This dump will discharge one or more cars at a time and will make a complete dumping cycle in five to seven seconds. It is controlled entirely by one latch lever, which holds the tipple in an upright position. The center of gravity of the loaded car or cars is eccentric to the tipple by a sufficient amount so that when released by the latch lever the tipple rotates through an arc of about 135 deg. This sets in motion a set of flywheels located on the roller shafts.

FLYWHEEL AND SPRINGS CARRY DUMP TO PLACE

At the end of the 135-deg. arc the tipple ring engages with a specially-designed spring and wedge, which stops its forward motion. The center of gravity of the car or cars is now on the opposite side of the center line of the tipple. This in conjunction with the recoil of the

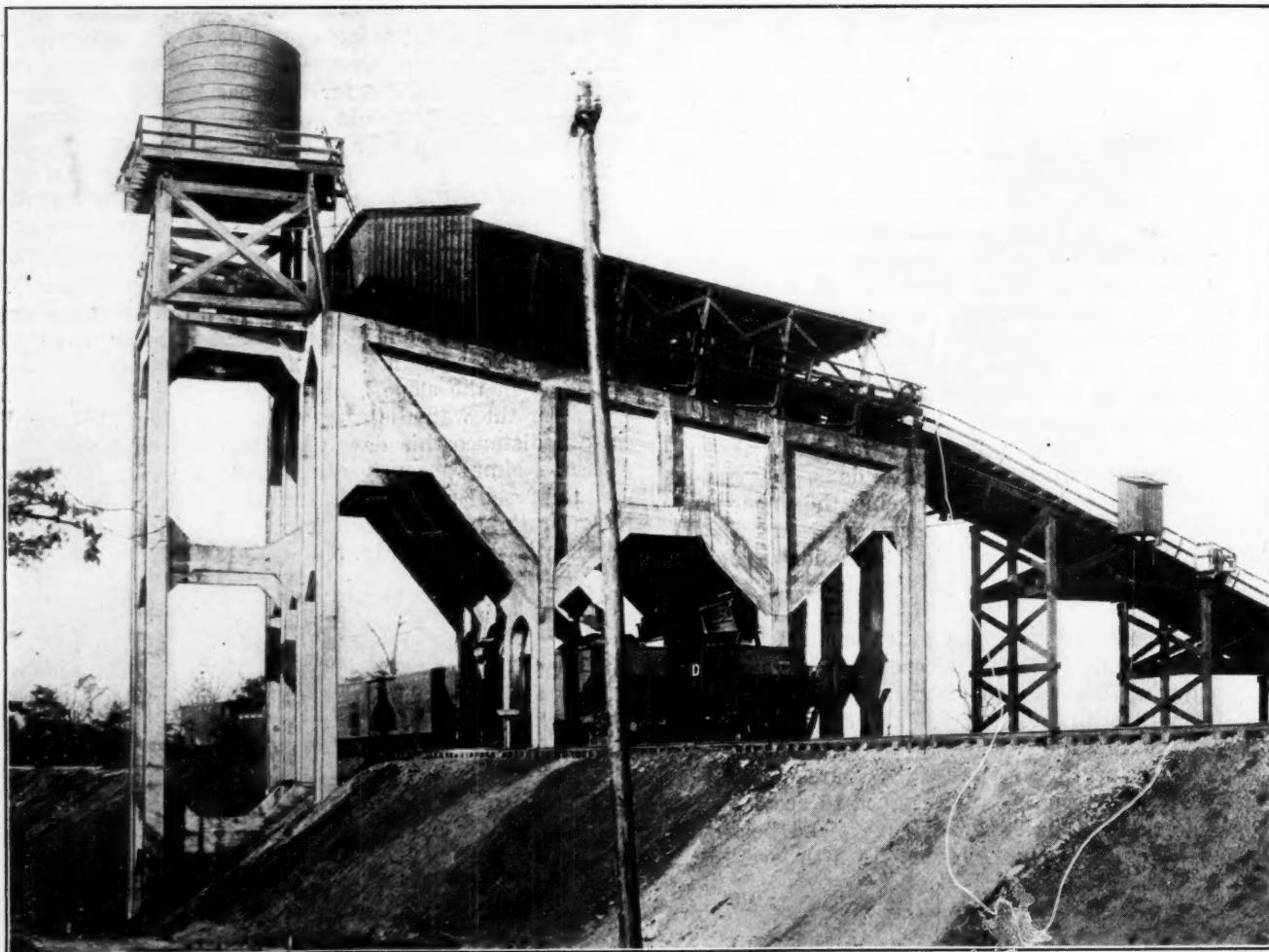


FIG. 1. TIPPLE AT DOLMITE NO. 3 OF WOODWARD IRON CO., ALABAMA
Five-car revolving dump at head of 1,400-ft. 30-deg. grade. The dump is set on a 15-deg. slope and discharges into a double V-shaped bin of a capacity of 400 tons. The cars are dumped without being detached from the rope. A 700-hp. double-drum electric hoist pulls the cars up the slope at a speed of 2,000 ft. per minute.

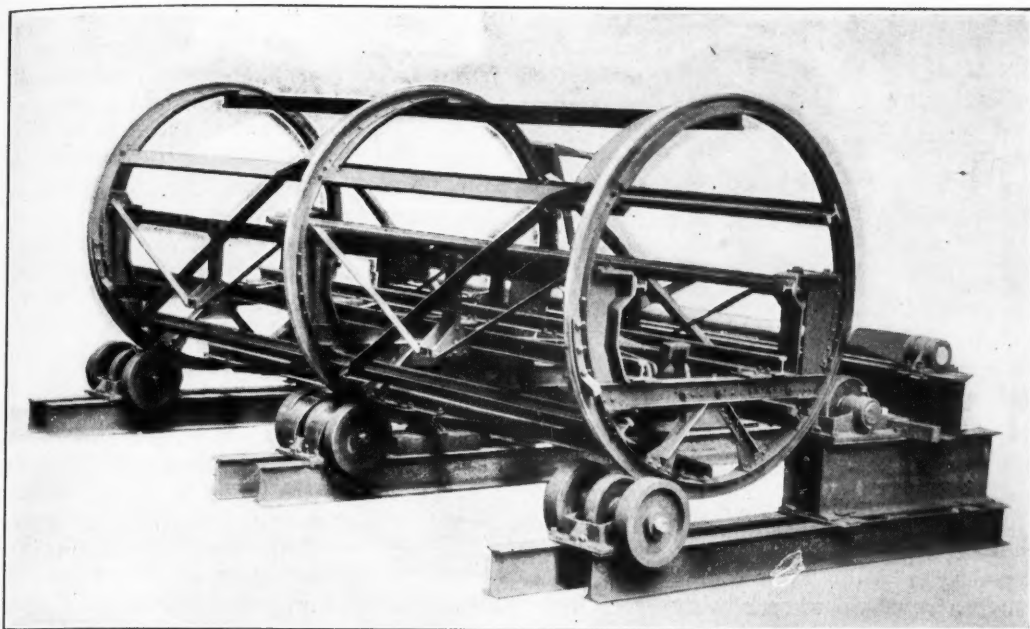


FIG. 2
Two-Car
Dump

Quartering view of dump at Gulf State Steel Co's. mine at Birmingham, Ala. This is an underground dump, set level. Cars are fed to it by gravity, a spring car stop spotting the cars in proper position for dumping. This illustration gives a good idea of the six lower flywheels, two of which are on each of the three short shafts.

springs starts the tippie in the opposite direction and brings the flywheels up to speed, their momentum carrying the dump around to its original position, where it automatically latches. All the rollers supporting the tippie are carried on shafts mounted in Hyatt roller bearings. This reduces friction to a minimum.

Several of these dumps are now in operation. The first was installed at the coal-mine slope known as Dolomite No. 1 of the Woodward Iron Co., of Birmingham, Ala. The coal cars, after being brought to the foot of the slope by an endless rope are attached in trips of four to a tail-rope haulage and hoisted at a speed of 1,500 ft. per minute up a double-track slope 1,900 ft. long having a maximum grade of $26\frac{1}{2}$ deg. At the top of the slope the cars enter either of two car tipples which are located over a 300-ton pyramid bin, from which the coal is loaded directly into railroad cars.

These dumps are shown in Fig. 4. The average capacity of this mine is 1,500 tons in eight hours.

At the Dolomite No. 3 are located two 5-car dumps of the same kind. The cars at this mine are brought to the foot of the slope by an electric locomotive and are there made up into trips of five, which are hauled by a 700-hp. double-drum electric hoist up a 30-deg. grade 1,400 ft. long at a speed of 2,000 ft. per minute.

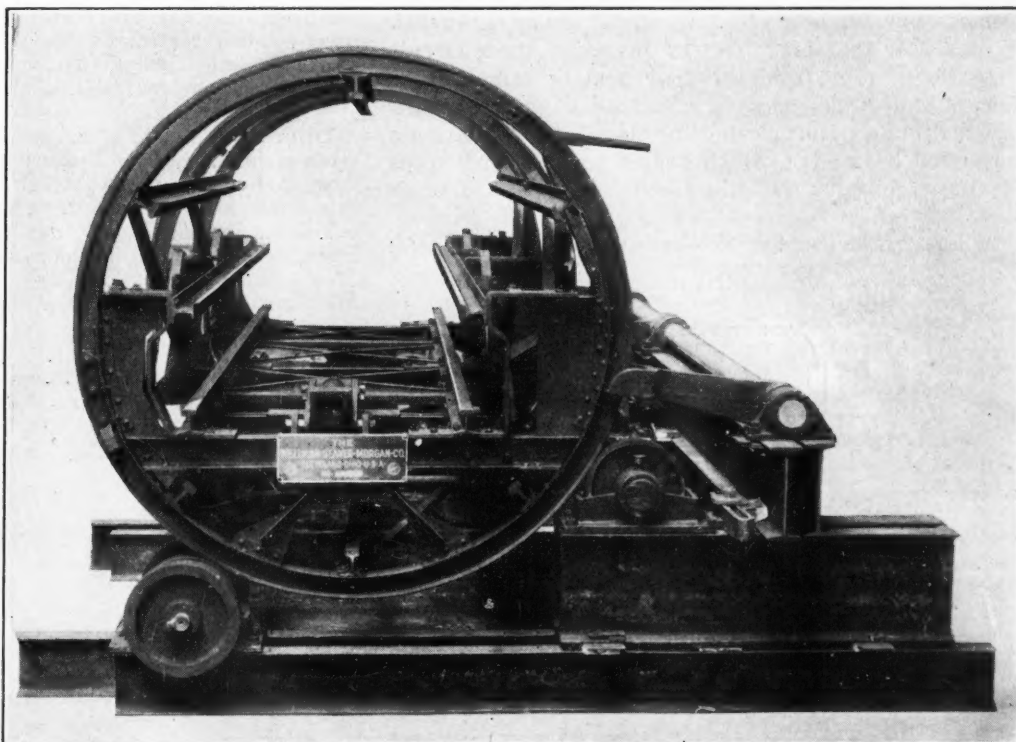
The rotary dumps are set at an angle of 15 deg. over a 400-ton double bin with V-shaped bottom, as shown in Fig. 1. The cars at both the No. 1 and No. 3 Dolomite mines are discharged without detaching them from the hoist rope.

The tippie at the No. 1 mine has been in operation two years and that at No. 3 for eighteen months. Thus far neither has failed to perform its duty properly, nor has either caused any delay or expense in its operation.

FIG. 3

Car Dump

Track is set to left of center so that when the cars are in place the dump is out of balance. As soon as released by the latch lever it turns 135 deg., whereas a spring and wedge prevent further rotation. Recoil of springs and an attempt to restore its balance brings it back, setting two flywheels in under part of ring revolving. These carry it back to its original position, where it is again latched.



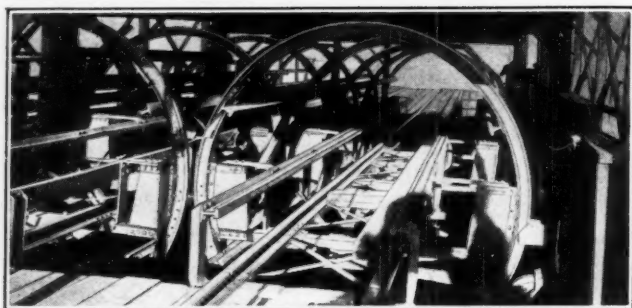


FIG. 4. TWO REVOLVING DUMPS, A RIGHT AND A LEFT. Each dump will discharge four cars at one time. This dump, which is placed over a 300-ton pyramid bin, is located at Dolomite No. 1 of the Woodward Iron Co. of Birmingham, Ala.

Both of the above-described tipples are used for handling coal, the weight of each loaded car being about 4,600 pounds.

The Woodward Iron Co. also has another five-car dump of the same type handling ore cars. This is located 400 ft. below the surface and is set at an angle of 17½ deg. A trip of five cars, the gross weight of each being

three tons, is brought into the dump and discharged into a 300-ton bin. Thence the ore is dropped by a roller feed gate into a measuring pocket, whence it passes to an 8-ton skip which is hoisted in a vertical shaft to the surface. The contents of the skip is then dumped into a bin and from that point discharged as needed into railroad cars. The capacity at this mine is 1,200 tons in ten hours.

At the installations described above swivel car couplings are not used, as the entire train is dumped at one operation. Tipples of this kind can be applied also to conditions where it is desired to dump a small number of cars or less than a full trip without detaching them from the rest of the train.

The tipple shown in Fig. 2, which is now being installed at the Gulf State Steel Co.'s mine at Birmingham, Ala., is arranged to discharge two cars without uncoupling from the trip. This dump is located underground and is set level, the cars being fed to it by gravity. A spring car stop is provided for spotting the cars in proper position on the tipple, as conditions are such as to render a device of this kind necessary.

Signal to Warn Men at Work at Dump Pit That Mine Cars Are Approaching*

BY PETER BROADT†
Hazleton, Pa.

AN AUTOMATIC track signal which is giving satisfactory service has been installed for some time in the Oneida coal shed at Spring Mountain colliery. The signal, which is an electric horn, is located at the dumping pit, and gives an alarm as soon as a car passes over the track circuit located at the entrance to the shed at a distance of 300 ft. from the pit. The accompanying illustration shows the general arrangement of the insulated track, relays and electric circuits.

At the entrance to the shed are four gravity cells (A), the current from which energizes the relay magnets (B), which keep the contacts of the signal circuit open at relay magnets (E). When the car or cars reach or pass over the thirty feet of insulated track circuit (C), the current from the four gravity cells (A) is short-circuited, de-energizing and allowing the relays (B) to drop out, thus closing the circuit at (E) through the signal horn (D), which begins to blow and keeps blowing as long as the cars are on the insulated track

circuit, and stops when the track circuit is clear. The current for the operation of the horn signal is supplied from a 110-volt alternating-current system which is reduced to 20 volts, the current required for the operation of the signal.

The object of the signal is to convey a warning to the men at the dumping pit when cars approach the track circuit or to prevent a possible accident should a car get beyond the control of the car runner, due to defective brakes or other causes. Hearing the horn the men will be enabled to reach a place of safety. The horn also acts as a safeguard when, as in the winter months, the shed is filled with the steam used in thawing out the frozen coal.

THE TRAFFIC COMMITTEE of the American Wholesale Coal Association has had compiled by responsible specialists a textbook giving a complete history of the reconsignment privilege since the Interstate Commerce Commission took over detailed control of the railroads fifteen years ago. The compilation shows that there has been a progressive limitation of the reconsigning privilege.

THIRTEEN PER CENT of the open-top equipment of the railroads is in bad order. Because of their financial condition, most carriers are in no position to undertake the repair of this equipment at present. Should the demand for this equipment increase rapidly next autumn, this fact will have an important bearing on the car supply, as the rapid repair of steel cars is impossible. Only a very small percentage of railroad shops are equipped to repair steel cars.

*Article originally entitled "Automatic Track Signal," reprinted from Lehigh Valley Coal Co.'s *Employees Magazine*.

†Electrician for Lehigh and Hazleton divisions of Lehigh Valley Coal Co.

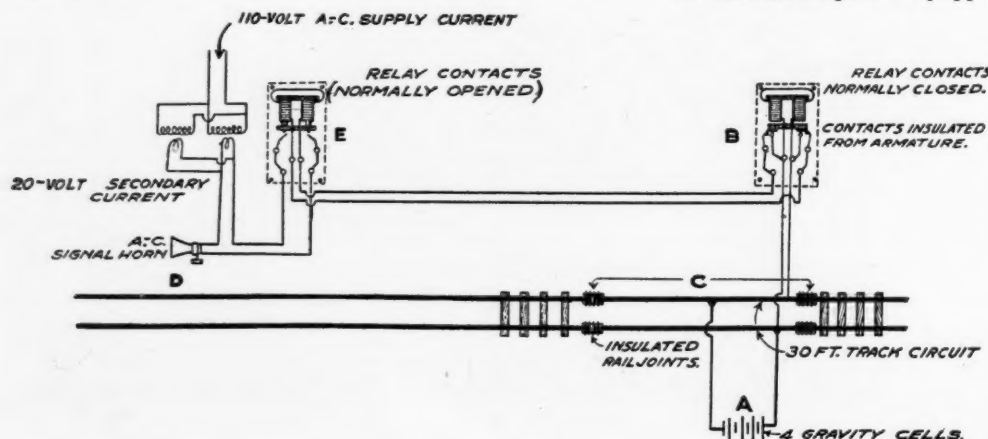


Diagram of Connections

Cars passing over a 30-ft. insulated section of track sound an electric horn at the dumping point 300 ft. away. Men at the dump are thus warned of approaching cars even though they may be invisible through the steam of the thawing shed.

How Modern Employment Practices Assure Contented And Efficient Personnel

When Industry Was Young and Producing Units Small, Close Comradeship Existed Between Employer and Employee—Now That Units Are Large the Personnel Department Seeks to Restore This Friendly Relationship

By N. O. IRWIN*
Benham, Ky.

IMMENSE sums have been spent in the development of new mining territories and in the perfection of equipment and processes, but how much intelligent thought has been given to the human element in the industry? Electrical, mechanical and civil engineers have long been considered as integral parts of the operation, but what of the personnel engineer?

Such an official is practically unknown in coal mining. The worker, without whom there would be no industry, too often has been left to his own devices. There is no department or agency charged with the specific duty of seeing that this vital part of the business functions properly. Is there any wonder then that in many cases it does not function and that as a natural result of this neglect strikes and labor troubles are of frequent occurrence? The personnel of an operation will break down as surely as its machinery if care be not bestowed upon it.

Employment, industrial relations, personnel departments, or whatever we choose to call them, have been widely established in nearly every branch of industry except coal mining. Why? Are the directors of this important and indeed basic industry ignorant of, or indifferent to, the benefits such departments render? There seems to be no other plausible explanation. However, the time is at hand, whether we wish to acknowledge it or not, when industrial relations must

be considered as an element vitally affecting economic and social life. The sooner this is conceded the better it will be for both employer and employed.

DEPENDENT ON GOOD WILL OF EMPLOYEES

Of course with truly conservative business men the natural questions are, Will an employment department pay? Is it worth the expense that its maintenance will entail? Is it not a fad or a philanthropic experiment of ultra-progressive companies? The best answer to these questions is what has been accomplished by those who are taking the lead in this field.

An order issued by the management will not establish an employment department. All the functions that ordinarily go to make up such a department may be delegated to it, but it will never succeed until it has gained the active—not the passive—support of a great majority of the employees and more especially the foremen. In other words, it is necessary to begin at the bottom and win the confidence of everybody from the trapper boy to the superintendent.

It is highly essential that the right type of direction be obtained. In no field of endeavor does personality count for so much as in personnel work; in that field it is everything. The successful establishment of an employment department demands the highest type of salesmanship, but this does not mean that a first-class salesman would necessarily make a first-class employment manager. The head of this department succeeds

*Employment manager, Wisconsin Steel Co.

A Few of the Houses

Benham has many desirable residences. The employment bureau tries to rent each man the house he desires. If he cannot be placed satisfactorily at first, his application for a change is filed, and if he makes good at his work he will receive a more desirable house as soon as it is available.



Benham at Play

The village has a good level diamond, but the hills in the rear rise quite steeply. The houses, it will be noted, are of various types and not of a single monotonous design, which in some mining towns makes it hard to tell one's own home from the home of a neighbor.



in proportion as he can gain co-operation, and this can be obtained only by proof that the department has come to serve all and not to encroach upon the prerogatives of any. Such a department must aid every other department and dictate to none of them.

While this department should have a certain definite authority, the effective employment manager gets things done not merely by using the power that he holds but by bringing the men to like him and to believe in him so thoroughly that they are glad to help carry out his program. This confidence usually is gained with difficulty and will not be gained at all unless he meet his men in the spirit of co-operation and helpfulness.

Before the introduction of highly developed machinery all plants were necessarily small and the tie between the employer and employee was strong; each knew the other intimately and there was a real community of interest. But with the development of our present industrial system this comradeship has been lost. The worker usually feels that he is considered only as a part of a great machine. It is the true and highest function of the employment department to provide an effective substitute for this former relationship between employer and employee.

EMPLOYEE AN ASSOCIATE IN THE ENTERPRISE

It might be interesting to discuss briefly the functions of the Wisconsin Steel Co.'s coal-mining department, in which I am employed, not because we are doing many things that are done at no other mining operation but because we believe we are doing them more purposefully and systematically. To be sure, men are hired and discharged and houses are rented, etc., at nearly every plant, but too often without enough consideration of the human side of the transaction.

We, of course, do all these things, but it is part of our job to do them in such a way that the man will feel the personal contact which we are trying to establish; that he will believe himself to be not only an employee but also an associate in an essential enterprise.

The employment department can really be divided into several bureaus according to the functions performed. It concerns itself first with the development

of the available sources of labor supply. Perhaps the best source is found in the friends of present employees. It is part of our job to represent the company and its policies to the men and to impress them so favorably that they will be glad to tell their friends about us. This good will on the part of the employees is our most valuable aid in obtaining new workers. We feel that this spirit can be more fully developed by an agency whose business it is to see that the men are treated squarely, to which they may come at any time, tell their troubles and find fairness and sympathy.

PROCURING NEEDED LABOR FORCE

We rarely find it necessary to use the service of the private employment agency. Though we are located in a field where transporting of men is common we do not often resort to it to keep our ranks full. It is a part of the duty of the employment department, however, to keep in touch with this source of supply, so that when a requisition for men comes from a foreman it can be promptly filled.

We personally interview each man before he is given a job. We have before us the needs of all the departments and are thus able to place the man to better advantage than if he went direct to the foreman to obtain employment, because that particular foreman might not have available the work most fitted to the applicant, whereas we know the needs of all departments.

Again, a man might go to one or two foremen and not obtain work, become discouraged, and leave, when a job for which he is admirably fitted might be open in another department to which he did not apply. Even granted that the man finally does get placed, he may not be in a happy frame of mind after he has walked all over the works hunting a job. All these handicaps can be overcome by centralized hiring.

FOREMAN HAS WORK ENOUGH GETTING OUT COAL

One of the obstacles that must be surmounted is the protest from some foremen that they are being deprived of the privilege of hiring and firing their own men. Many such men must be "shown" that their department is going to benefit by the change. The foreman in

modern industry has come to be primarily a production man, and cannot do his work in keeping with the standards of the times if he must also be an employment clerk, a house custodian, a welfare worker, and an absentee investigator. Once he did all those things, but in these days of the division and specialization of labor he cannot do them and at the same time "get the coal."

In addition to the personal interview we give a short lecture to all employees in which we inform them of our industrial council plan, our extra compensation and stock ownership provisions, and the company's policies in general. We tell them the things they should know about their new work and about our town. They are given to understand that the employment department is theirs and that we are their personal representatives; that they may come to us at any time and always get a hearing and that we will always get them what they want or explain to them in a man-to-man way just why their wishes cannot be granted. Many times a man will go away well satisfied even though he did not get what he came after, because a personal interest has been shown in him. We give the new man his car checks, identification check, and see that he is equipped for work the next morning.

MAN TRANSFERRED TO WORK HE LIKES TO DO

All transfers are made by this bureau. Not every man is fitted for every job. If we make an error in placing a man he can be sent back to us and we probably can put him somewhere else until we help him "find" himself. Often, by reason of our being able to transfer him elsewhere, a man is retained who has become discouraged and is leaving. Without the centralized method this man would in all probability leave and never know of the other job, because he was not in the frame of mind to look for it.

This bureau also keeps a record of each absentee and the reason for his absence, as well as the earnings of each employee and the rating his foreman has given him. These statistics enable us to make intelligent promotions, show us the progress each man is making and whether he should be given a house, etc. If he leaves and comes back we have his former record and

can thus hire or reject him with the least possible chance of making a mistake.

Just as the man is hired by this bureau so also he is released by it. The foreman gives him a termination-of-service slip from his own department, and we release him from the plant. Everyone is interviewed and the true reason for his departure is found. As stated previously, in many instances the man does not leave after we talk it over. But if the man does go and he has "made good" we try to make him feel that he is leaving friends behind, and in consequence it is likely that he will return later. In case of the discharge of an employee, this bureau investigates the cause and in many instances misunderstandings are thus cleared away.

COST OF HIRING MANY NEW MEN SAVED

The personnel staff prepares reports and statistics for each department, which contain a record of causes for labor turnover and transfers and a daily summary. In many instances these reports and the investigation necessary in compiling them show leaks in the business that are just as positive as if so much coal were being dumped into the ocean. The cost of hiring, firing and replacing a man varies greatly in different industries, but in any business it is a large factor, demanding the closest attention and requiring reduction by every feasible means.

In a town containing a large number of company-owned houses there is an abundant opportunity to reach and influence the personal life of the employee. When it is handled in the proper manner, the housing problem can be solved to the mutual advantage of both the company and the men. We try to rent to the applicant, if possible, the house he wants. If we cannot place him satisfactorily at first, we take his application for a change, but he is made to understand that he will be favored according to his success in his work; that if he makes a good record we will place him in a more desirable house as soon as possible.

Most men are particular about their living conditions when they are given the chance to be so. We make them realize that accurate and just records are kept on



Instruction Class

Every man entering the employ of the company is given instructions as to the rules and policies in force at the Wisconsin Steel Co's. mines, so that he starts out able to take full advantage of his opportunities and knowing exactly the conditions under which he is employed.

them and that they will be rewarded in proportion to their services. In that way we make our better houses a real incentive to greater effort. This is possible only when handled by a competent and fair custodian who has a degree of diplomacy in his make-up.

The housing bureau is responsible also for the placing of all single men in boarding houses; we do not let the new man go out and search the town for a place to stay. If he desires private board we try to see that he is satisfied. This interest frequently retains the man, whereas he might quit if thrown on his own resources. We have several boarding houses which are under the supervision of the housing bureau. If, for any reason, one of these does not give satisfaction, an investigation is made and the difficulty corrected. This bureau, in connection with the medical department, is charged also with the supervision of the sanitary condition of the town. Regular inspections are made by the house custodian and result in the preservation of hygienic conditions. It is believed that this has a marked effect in the prevention of disease. This one bureau pays for itself many times over in the satisfaction that it creates among the employees and its salutary effect upon the sanitation of the community. Both these results are direct aids to production.

COMPENSATION TREATED AS PERSONAL PROBLEM

Workmen's compensation also is adjusted by the personnel department. This is another phase of industry that should be handled as a personnel problem and not, as is frequently the case, as a cold-blooded business matter involving only the payment of so many dollars and cents. The spirit of the company is shown by the way it treats its employees when they are unfortunate.

If this obligation be discharged merely as a necessary nuisance, the employees will get the impression that all of the high-sounding talk about the brotherhood of man and the application of the Golden Rule in industry is "bunk." Of course the law requires that the injured man be paid a certain sum based on the injury or the time lost, but with every occasion of this sort opportunity is presented of "selling" the company by meeting the workman more than half way while he is injured and cannot pay his own way.

Legal aid offers a real chance for service which will be greatly appreciated by the employees. Such matters as the acknowledging of deeds and the giving of legal advice tend to stabilize the working force. All of these things are done by our company. The returns in good will amply repay the effort and time expended.

One branch of the personnel department has charge of the issuing of the plant magazine, which we believe is immensely worth while because of the facility it affords to disseminate information and to create a pride in the town and in its citizenry. This magazine is adding to the morale of the workers, which, although an intangible asset, represents something the value of which can be most appreciated when it once has been gained and then lost. It also is an aid in procuring new workers. Every month many copies are sent by employees to friends elsewhere. Naturally this advertises the plant. Experience teaches that money thus expended is well invested.

The company gives its support to public education through this bureau. Although the educational system is supervised by public authorities, the company is a real factor in its direction. There is no doubt that this control is affording much better schools than could be

obtained without the company's backing. We have a nine months' term, and this year an accredited high school has been established. A new building containing all the features and departments that constitute a modern and model school will be ready for occupancy before another term. Under the direction of this bureau night schools for foreigners have been conducted. This has afforded an opportunity of establishing a friendly relation with this class of employees that could not have been gained in any other way.

It must be remembered that an employment department is justified only in so far as it improves and increases production. This will be accomplished, provided the right management is obtained, because a better morale will be created among the employees. Another advantage of an employment department is that foremen and other executives will be released from arduous duties which in modern industry are beyond their sphere.

In this way man power will be conserved by proper and scientific placement and handling of the workers, which, according to the principle of specialization and division of labor, can be most efficiently done by a department or bureau specifically charged with that duty. Finally, accurate and reliable data on the human element, as well as on the machines and processes employed, can thus be obtained.

As the employment department continues to develop it will assume new duties which will add still more to the efficiency of the plant by bringing about a higher degree of co-operation.

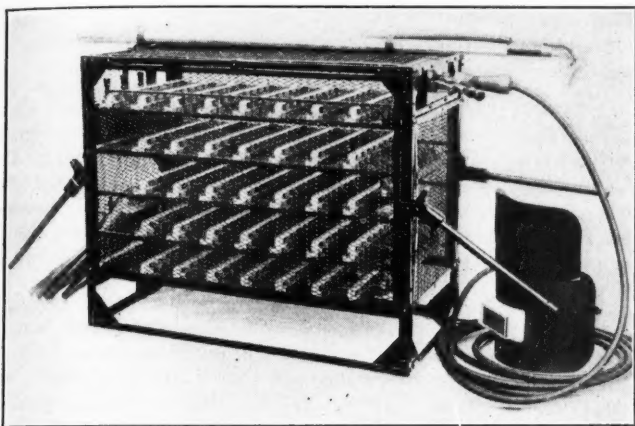
IN A SPEECH OPPOSING an increase of funds for fuel for the navy, Senator Kenyon, of Iowa, who figured in coal investigations last session, gave an echo of those proceedings. He charged that the failure of Congress to legislate for control of the coal industry had caused an increase of \$7,500,000 in the navy's coal bill, which the people would have to pay. He also asserted that the public was being frightened to buy coal so as to put up the prices, referring to appeals which had been issued to buy coal now, among them one by Senator Elkins, of West Virginia. "We tried to get legislation last session and reported a bill, but it slept the sleep that that kind of a bill—a bill for some control of the the coal situation—generally does in the Senate," he said. "The bill was laughed at as freakish and socialistic, but the country will be facing the same condition again in the fall, and the same tactics are being pursued to bring it about." He said the country was reaping the result of failure to act at the last session. He said if there was some kind of control of natural resources the people would obtain coal in winter at a lower price than they will have to pay for it. He referred to the negligence of Congress in being afraid to attack the proposition, as it was terrified "by the great industries that control at least the anthracite coal, and is afraid to pass any legislation on the subject." He said the coal question would have to be faced in legislation before many days.

IN THE RAILROAD INVESTIGATION before the Senate Interstate Commerce Committee President Smith of the New York Central R.R. said the road was making contracts for this year later in the season than was the usual practice as contracts previously made had overlapped because of decreased consumption due to business decline. The roads have so much coal on hand now that they do not have to make contracts. They are buying some coal on the open market in the belief that coal prices will further decline. He estimated his road would save five or six million dollars on coal this year. As to oil he said that product could not compete with coal for use on his railroad because of distance from producing points.

Track Welder Has Resistance Giving Thirty-Six Current Values for Varied Uses

A NEW electric-arc welder, called the "Ajax," is being placed on the market by the Railway Track-Work Co., Philadelphia, Pa. It consists of special wire resistance coils supported on insulator bars which are mounted on a frame of steel angles. A switchboard for controlling the current is mounted at one end of the frame. The type of machine recommended for mine work weighs approximately 100 lb. and is 18 in. x 36 in. x 36 in. in size.

The designers of this machine have given special consideration to high current capacity, accessibility of parts, ventilation and portability. The wire used in the resistance coils is a special grade of very high resistivity adopted after several years of tests and experiments.



ELECTRIC ARC WELDER FOR TRACK PURPOSES

Welder has high capacity, is readily accessible throughout its parts, is more than usually well ventilated and is portable.

A control mechanism, consisting of a line switch by means of which current can be cut off from all the coils, is mounted on one end of the framework. At the opposite end the switchboard for regulating the current is mounted. A shunt switching device provides for short-circuiting a portion of the coils where large currents are required. By this arrangement control over several groups of coils is made independently of the other groups. The switchboard provides for thirty-six values of current.

Several plugs are provided for attaching the lead wires to the machine. These plugs have wooden handles to protect the operator from shocks and also to prevent short-circuits.

Sand and Cement for Cement-Gun Work Underground Are Mixed at Surface

BY G. B. SOUTHWARD*

AT SOME of the mines of the West Virginia Coal & Coke Co. a cement gun is used for coating the tops of the entries in order to prevent rock falls, which we believe are caused by the disintegrating action of the moisture in the air. We formerly mixed the sand and cement inside the mine immediately before the mixture was placed into the machine. This required two or three men and also necessitated transporting a mixing board through the mine with the machine.

It was apparent that the operation would be greatly

facilitated and reduced in cost if the sand and cement were mixed outside the mine during the afternoon, then taken into the mine in bags ready for use. The main objection to this method is the possibility that the moisture in the sand will cause an initial set in the cement. We felt, however, that this objection could be removed if the sand was dried to a moisture content of not more than 1 per cent by weight.

For about a year we have been following this method, first drying the sand and then mixing it with the cement in the proper proportions. This dry mixture is then put into ordinary cement bags and taken to the point where the cement gun is operated. The mixing generally is done in the afternoon, so that three or four hours elapse between the time of mixing and using. The water, of course, is added at the gun, as needed.

We have had no opportunity to make any accurate tests to determine whether or not this pre-mixing has any effect on the finished product; but so far as we can tell by observation the results are just as satisfactory as when the mixing was done at the machine directly before using. Our method is, in fact, analogous to that used by concerns handling prepared cement stuccos, where the material is prepared, sacked and stored in the same manner as cement alone would be stored.

Mixing our material on the outside has effected a considerable saving in cost, as the labor is performed under better and easier conditions than in the mine, and further time and labor are saved by eliminating the transportation and handling of the mixing board.

Milestones in British Mine Development

IN 1833, according to W. Fordyce, Benjamin Thompson made a "valuable discovery for the conveyance of coal underground, when tubs upon fixed carriages were introduced and steam engines fixed either above or below ground." This seems to point to the modern mine car and to rope haulage, but the general adoption of the plan did not follow till at least twenty years later. Mr. Fordyce also records the successful use of compressed air for the transmission of power below ground at the Govan Colliery, in Scotland, in the year 1853. It was not, however, till seventeen years later that compressed air for transmission of power underground received the attention it deserved.

Though in 1882 Henry Davy contributed a paper to the Institution of Mechanical Engineers on the possibilities of the use of electricity underground it was not until January, 1883, that the first electric motor was installed in the mine workings. This was at the Trafalgar Colliery, Drybrook, Gloucestershire, according to R. Nelson, formerly electrical inspector of Great Britain.

In a report to Congress recommending an appropriation of \$47,000 for investigations of heavy clay products, cement, feldspar, slate and other non-metallics, the Bureau of Mines says enormous quantities of coal are used in burning brick and tile and with high fuel costs, notwithstanding recent reductions, the fuel cost is a dominating influence on prices. It is declared that the present types of kilns waste fuel. When fuel was cheap this did not greatly affect costs, but at the present time with coal at the mine three times what it was five years ago and with freight twice as much, the Bureau says the importance of fuel economy is vital. The Bureau proposes a survey of kiln plants, including actual burning tests, to secure data which will tend to greatly reduce fuel costs.

*Chief Engineer West Virginia Coal & Coke Co.



Problems of Operating Men

Edited by
James T. Beard



Two Adjoining Mines Compared

Characteristic Feature of a Successful Mine Operation Is Action—Harmony and Co-operation Are Evident on Every Hand, While Disorder and Discontent Prevail Elsewhere

READING the excellent letter on the "Observed Difference in the Handling of Men," which appeared in *Coal Age*, Apr. 14, p. 674, brings vividly to mind a visit I made awhile ago to two adjoining plants that were operating under natural conditions that were identical, but the results obtained presented a marked contrast.

My occupation brings me into frequent contact with coal-mine officials and affords me ample opportunity to observe these qualities in management that make for success or failure. It is not my province or intention to find fault, for the inspector's job is first of all to serve the operator and bring order out of confusion and chaos whenever that is possible.

OUT OF THE GAME, NO WORRY

In conversation with mining men, my comments are often met with the rejoinder, "You do not appreciate the worry that present-day conditions mean to mine officials. For the past four years you have not had to contend with the troubles that come to the man who has charge of a mine."

That such is true I will not deny, but the change has given me a different viewpoint and made more clearly apparent those elements on which success or failure depends. In a few words, I might say a mine is successful in direct proportion to the personal efficiency of the men in charge. In other words, the mine is as we find the boss. The boss invariably stamps his character on the men in his charge, who take him as their guide and pattern while in the mine.

THE "BIG PRODUCER" IS A MINE WHERE ACTION PREVAILS

The noticeable feature of an orderly mine can be expressed in one word, ACTION. Approaching the tippie of a mine that is a big producer, we find everyone busy and contented. If cars are not coming out of the mine, the topmen are cleaning up the track and putting the tramway in order. In like manner, the bottom-men are doing the same and making ready for a good run when coal starts again.

But, to return to my story, the two adjoining plants I have mentioned were operated under conditions that should have made them equally successful. Many of the stockholders were in-

terested in both mines. The equipment was identical in each, and the two mines were planned to be large producers. Therefore, the fact that one produced 2,000 tons of coal a day against an output of 500 tons at the other mine, naturally gave rise to much dissatisfaction.

VISIT TO A BUSY MINE

Visiting the Left-Fork Mine, one Monday morning, I found everyone at work. Stopping at the store a moment to inquire of the manager where I should look for the superintendent, I was given a cordial greeting and told where he could be found.

At the mine, the superintendent was talking with the foreman but at once, proceeded to accompany me, as his usual custom was to take a run through the mine each day. It was no surprise to me to observe that he was thoroughly familiar with every detail underground. There was not the usual, "Why are you doing this?" or "Why was that done?" and "What entry are we in now?"

Occasionally a workman was found following a dangerous practice and was corrected in a few quiet words. Every one seemed pleased to see the "Super" around; and I felt that our visit to each working place meant much in respect to the safety and contentment of the men. The foreman examined the roof, shot-holes, explosives and tools of the workmen, besides stealing a glance at the loaded car to detect any dirty coal.

My impression on coming out of the mine was that, with such a superintendent and watchful foreman, if a miner was not working safe when visited, he would be before the boss left him. Throughout the mine, things were in order and there was action everywhere. Empty and loaded trips were moving regularly and the supply of coal kept both top and bottom-men busy.

ANOTHER MINE NOT BUSY

The following day I was due to visit the Right-Fork mine, where it was easy to see that things were not going well. Everyone appeared to be "run down at the heels," so to speak, and had a worried, worn-out appearance. The clerk in the office, with an abstracted look, announced that he could not tell where I would find the superintendent.

Proceeding toward the mine, I met an overworked, tired looking man who appeared ready to drop. I assumed he had been working all night, and he certainly had missed the barber for several days. Disclaiming the title of superintendent, he ventured the information that I would find the foreman at the tippie where they had had much trouble in starting that morning.

FOREMAN WORKS HARD WHILE HIS MEN STAND AROUND

On the tramway, I found three or four men watching the foreman who was vainly endeavoring to replace some wrecked cars on the track. In response to my inquiry, he said he would go with me into the mine as soon as he had gotten the tippie going; but, after waiting a while I proceeded alone, having learned that he had been several months on the job and had never yet succeeded in getting the tippie going to his satisfaction.

Seeing me start for the mine, the foreman called after me that I would find the assistants, each in his own section. Instead of that, however, all three of those men were found standing on the main sidetrack, in the mine, disputing some important matter of state when I entered. They proved to be a very congenial bunch and were quite willing to go through the mine with me, though I could not but feel that each was loath to leave the sidetrack, which was more attractive to them than anything within.

DISORDER REIGNS SUPREME

By way of introduction and getting acquainted, I asked where the main-line motor was. In reply, one of the men said with a grin, "It is probably on the ground somewhere, as it is there as often as on the rails." I asked why they had not called the outside and gotten help, but was promptly informed that the 'phone had not been in working order for some time.

It will cause no surprise to any one to learn that, in this mine, I found the miners an indifferent lot, spending much of their time visiting their fellow workers. My survey of the entire situation brought to mind the old saying that is very true, "Birds of a feather flock together."

No words are needed to compare this operation with that visited the preceding day. There was no action, no working spirit, no order anywhere. Instead, delays were frequent and prolonged, while coal and the tippie were strangers much of the time.

Pikeville, Ky. GEORGE EDWARDS.

Rib-Side the Working Face

Objections offered to making the rib-side of a room the working face, in machine mining. Longwall, panel system provides a larger development at less cost and greater safety.

KINDLY permit me to offer a few comments regarding the article of Carl Scholz, *Coal Age*, April 14, p. 661. In that method, the seam is divided into panels 1,200 ft. in length and 500 ft. deep.

In the development, the rooms are said to be driven in pairs across the panel, each room being 12 ft. wide and 500 ft. long. The rooms forming a pair are separated by a thin pillar that can be taken out with two cuts of the machine; but the pillars separating the several pairs of rooms are made much wider, in order to enable a large extraction for the same development.

SLAB-CUTTING THE PILLARS

After reading this article with deep interest again and again, it appears to me that under ordinary roof conditions it would not be possible to slab-cut these pillars to a width greater than 30 ft., as it would not be desirable to run the risk of having a valuable machine covered by a heavy fall of roof. Moreover, it seems to me that there would be no greater extraction of coal by this method than by any other panel method of mining.

While I may not have grasped the detail method of carrying out this plan, my fear is that it would be hard to keep men at running the machines in

main-east haulage road and air-course and two pairs of north entries turned off these so as to form a panel 2,070 ft. in length.

As shown in the figure, stalls are driven off the main-east haulage road from 12 to 18 ft. in width, depending on roof conditions, the greater width being preferred to avoid the payment of yardage. These stalls are driven up 200 ft. where they are cut by the next cross-heading.

LARGE PILLARS LEFT TO PROTECT THE MAIN HEADINGS

At this point, a longwall face is opened out, as shown in the figure. I have left solid pillars of coal, 200 ft. square, for the support of the north entries, which makes the longwall face crossing the fourteen 100-ft. pillars, 1,400 ft. of coal, there being fifteen stalls each 18 ft. wide. It may seem that the pillars left for the protection of the entries are unnecessarily large, but this will provide a good extraction of coal in retreating, after the boundary is reached by the advancing longwall face.

My claim is that the properties presented in this plan are such as should be enforced in the working of seams exceeding 200 ft. in depth, and can well be applied to any seam regardless of depth. I believe the showing in cost of production will be in its favor as compared with most methods of mining.

It should be stated here that the roof at the longwall face is supported by hard-wood chocks the nogs being 6 x 6

turn. The coal-loading machines follow some distance behind. Assuming the coal has been loaded out from the face between No. 1 and No. 2 roads over the road first named, No. 2 road is then used to haul the coal loaded from the face between roads 2 and 3.

While this is being done, the track in the first section is shifted forward close to the face and the rear row of chocks taken out and reset at the side of the track, ready for the next cut. The cutting machine is kept at a sufficient distance ahead of the loading machine to allow the coal to be shot down ready for loading.

Linton, Ind. W. H. LUXTON.

Responsibility of Mine Officials

Illinois mining law does not require certificated assistants to the mine manager (foreman). The responsibility rests with the mine manager to select competent men as his assistants.

WITH much interest I have read the many letters relating to mine officials who are charged with the safety of underground operations. The letter signed "Ben" and entitled "Honesty, Safety, Efficiency," *Coal Age*, Apr. 14, p. 675, was of particular interest drawing attention as it does to the responsibility of mine officials.

One must admit that the mine manager, as the foreman is called in Illinois, is burdened with many duties, requiring both technical and practical knowledge and experience in operating a mine. The company expects him, while complying strictly with the requirements of the mining law, to produce results that will be satisfactory.

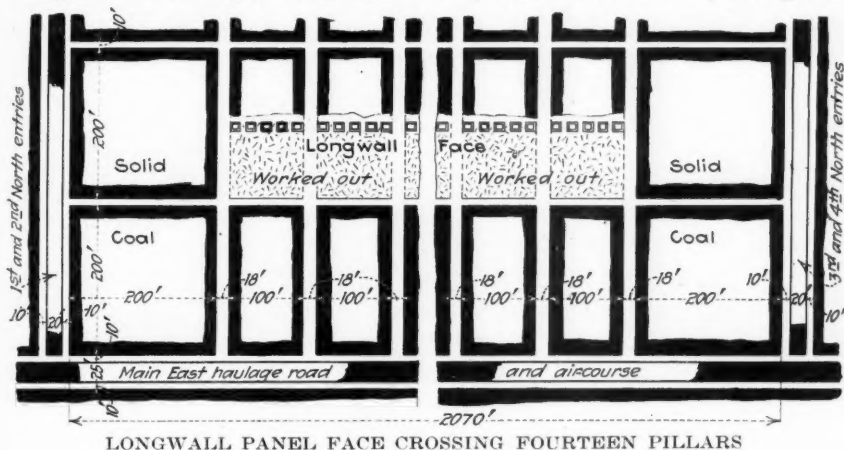
ASSISTANT MINE MANAGERS IN ILLINOIS NEED NO CERTIFICATE

In this state, the law does not require the employment of certificated men as assistants to the mine manager. For that reason, it is all the more important that competent men should be selected to assist him in running the mine. In my opinion, the mine manager is the man who should be held entirely responsible for any errors or mistakes made by his assistants.

There are many men in the state who have had a number of years experience in mines and have, besides, studied hard to get the theoretical knowledge that would enable them to obtain certificates of competency. A large majority of these men would probably be willing to accept a position as assistant manager, under a manager who would treat them fairly and give them every opportunity to make good.

In order to secure the greatest measure of safety and, at the same time produce the best results in tonnage, at a low cost of operation, there must be real co-operation between the mine manager and his assistants. In other words, they must work hand-in-hand for the protection of the men and security of the mine.

There are some managers who, I regret to say, always try to throw the



LONGWALL PANEL FACE CROSSING FOURTEEN PILLARS

these deep rooms, as the width increases. The plan will require a large amount of trackwork and presents a greater hazard in drawing timbers, which is necessary to be done for the sake of economy and to permit the caving of the roof behind the workmen.

These are a few of the objections that have occurred to me in my study of the plan. In some respects, it is not unlike a plan that I described in *Coal Age*, some two years ago (Vol. 16, p. 542), which I may be permitted to explain again briefly, in respect to its bearing on the method suggested by Mr. Scholz.

The plan I have in mind is illustrated in the accompanying figure, showing the

in. and 2 ft. long. These chocks are built up on 9-ft. centers and in a straight line parallel to the longwall face, as indicated in the figure.

In this method, the distance that men would have to run to safety would never exceed 50 ft., or half the width of the small pillars. There should be a double row of chocks, those in the rear row being taken out and set forward close to the face, as quickly as the machine has finished the cut. My preference is, for a cut of 8 ft. in depth, which greatly reduces the expense of tracklaying and drawing and resetting the chocks.

The coal-cutting machines advance along the face, cutting each pillar in

blame on their assistants when the fault is their own. More than once I have heard assistants make the remark that they would not hold their jobs longer, except for the hope that the mine manager would quit or be discharged and they would have a new boss who would treat them fairly and give them a chance.

While I cannot agree with the statement made by one writer, that an uncertificated man should not accept a position as assistant, I feel that the blame for such a one's mistake should rest wholly on the manager who selected him and should have looked after him and trained him.

In order to lift some of the responsibility that rests on the manager, it is my belief that there should be a law requiring the certification of assistant

managers. From what I have seen take place in mines where the company appeared to give the preference to assistants who had certificates, the practice is costing the company dearly without their knowing it.

Another thing that will lift much of the responsibility now resting on the shoulders of the mine manager, is the confidence that the company displays in his judgment and ability. While there are mines in this state that do not require the same theoretical and practical knowledge on the part of a manager, there are others where the conditions are bad and such knowledge is necessary for the success of the operation. In the latter case, the responsibility resting on the manager is not light.

DAVID YOUNG.

Edwardsville, Ill.

Inquiries Of General Interest

Ascertaining Mine Pressures With an Aneroid

In the Use of an Aneroid Barometer Underground for
Ascertaining Mine Pressures Allowance Must Be Made for
the Depth Below Surface at Which Readings Are Taken

KINDLY advise me if there has been any formula brought out that would enable reasonably accurate pressure readings to be taken in a mine with an aneroid barometer. Such attempts as we have made to take pressure readings with an aneroid have been misleading and the results proved of no particular value. It is possible that some one has conducted extensive experiments and been able to deduce a formula by which it is possible to determine the hydrostatic pressure in any part of a mine when the pressure of the fan is known. If such information is available, its publication in *Coal Age* will be greatly appreciated.

MINING ENGINEER.

McAlester, Okla.

We assume that the purpose of this inquiry is to ascertain whether the aneroid barometer can be used to determine the loss in pressure on the air in passing from one point to another throughout the mine.

Disregarding, for a moment, the pressure due to the ventilating fan, or assuming that the fan is not in operation, there is observed an increase of atmospheric pressure when consecutive readings of the aneroid are taken at the surface and at the bottom of the shaft. Likewise, the reading of an aneroid will be increased or decreased, according to the elevation of the several points in the mine where such readings are taken.

Now, assuming the fan is blowing air into the mine, the mine pressure at the bottom of the downcast shaft will be further increased by the pressure

due to the action of the fan. On the other hand, if the fan is exhausting, the pressure at the foot of the upcast or fan shaft will be decreased by the depression due to the fan.

In either case, to ascertain the pressure due to the fan, allowance must be made for the increase of atmospheric pressure caused by the difference in elevation between the point on the surface and that in the mine at which the reading is taken. Making this allowance, the difference in reading between the surface and the shaft bottom is a measure of the pressure due to the action of the fan less the resistance of the shaft.

Again, going further back into the mine on the intake airway when the fan is blowing and making the required allowance for the difference in elevation between the surface reading and that in the mine, the difference of the two readings is a measure of the pressure due to the fan less the frictional resistance of the shaft and airway up to that point.

In the same manner, as one proceeds from the intake to the return or discharge opening, the fan blowing, and making due allowance for difference in elevation where readings are taken, these readings will show a continual decrease of pressure on the air caused by the increasing frictional resistance of the airway throughout the mine.

Following the same order when the fan is exhausting and proceeding from the intake to the return, the consecutive aneroid readings, after making due allowance for differences in eleva-

tion, will show the same decrease of pressure on the air due to the increasing frictional resistance of the airway, till the bottom of the upcast shaft is reached.

It may be observed that all reliable aneroids are compensated for temperature changes such as met with ordinarily in mining practice, and it is unnecessary to make correction for temperature. Allowance must always be made, however, for altitude or elevation when comparing mine pressures with the atmospheric pressure at the surface.

Terms Used in Pumping

Explaining the meaning of terms commonly used in all pump calculations for the estimation of pressure.

ALLOW me to ask for a clear explanation of what is meant by the following terms, which are so frequently used in problems on pumping: Friction head, static head, and velocity head.

ASSISTANT FOREMAN.

—, Ill.

The term "head" is used to indicate the vertical height of any fluid medium above a certain point where the pressure due to the weight of a column of that medium is exerted. The pressure is expressed in pounds per square inch, or per square foot, according as the sectional area of the column is estimated in either denomination.

For example, the pressure per square foot, due to a head of water of 100 ft. is equal to the weight of a column of water 100 ft. high and having a uniform sectional area of 1 sq. ft. Or, since the weight of a cubic foot of water is 62.5 lb., the pressure per square foot due to a 100-ft. head of water, is $100 \times 62.5 = 6,250$ lb.

Again, since a column of water 1 ft. high and 1 sq. in. in section weighs 0.434 lb., the pressure per square inch, due to a 100-ft. head of water is $100 \times 0.434 = 43.4$ lb.

The expression "static head" is the actual height or head when the pump is not in operation. It is the vertical height of the point of discharge above the surface of the water in the sump.

When a pump is in operation the flow of water through the discharge or column pipe meets with a certain frictional resistance, which increases the pressure against the pump. This increase of pressure is expressed as so many feet of head of water. For example, an increase of $4\frac{1}{2}$ lb. per sq. in. of pressure, due to friction, would mean a friction head of $4\frac{1}{2} \div 0.434 =$ say 10 ft.

A certain pressure is always required to set water in motion and varies as the square of the velocity. This is called the "velocity head" when expressed in feet of water column. Both the velocity head and the friction head must be added to the static head to find the head under which a pump operates. Under ordinary conditions, the velocity head being small can be ignored without appreciable error.

Examination Questions Answered

Examination, Mine Foremen and Firebosses, Bituminous (Pa.), April 5-8, 1921

(First-Grade Questions)

QUESTION—Name and describe the non-explosive gases found in bituminous coal mines, giving their specific gravity, effect on health, where usually found and how you would remove them.

ANSWER—The non-explosive gases found in these mines are carbon dioxide (CO_2), specific gravity 1.529, and the nitrogen of the air (N), specific gravity 0.9713. Although carbon dioxide is not poisonous, it produces a toxic effect on the system when breathed. It contains no available oxygen and will not support life when unmixed with air. Small percentages of carbon dioxide in the air cause headache, nausea, pains in the back and limbs and final prostration, suffocation and death, as the percentage of the gas in the air is increased. Breathing is first affected at 3 per cent and panting follows at 5 or 6 per cent, while 18 per cent of this gas is generally fatal if breathed for any length of time.

Carbon dioxide accumulates in poorly ventilated and abandoned places, owing to the slow oxidation of carbonaceous matter. Because of its high specific gravity, it also accumulates in dip workings, swamps and other low places in the mine. It is removed by increasing the circulation of air in such places.

Under normal conditions nitrogen forms four-fifths, by volume, of the air we breathe. At times, it happens that the oxygen in the mine air has been depleted so that the proportion of nitrogen is increased. The effect of this loss of oxygen is quickly felt when such air is breathed. The normal percentage of oxygen in air is 20.9 per cent. If the oxygen content falls to 14 per cent, breathing is affected, but at 10 per cent the air is no longer respirable, containing then 90 per cent of nitrogen. These conditions occur to a greater or less extent in poorly ventilated places in the mine; or where tons of freshly mined coal lie over night in a close place and the oxygen of the air has been absorbed by the coal.

QUESTION—What dangers are likely to be encountered in approaching old abandoned workings, and what precautions should be taken to avoid them?

ANSWER—The old workings may contain accumulations of dangerous gas or water. The escape of the gas into the live workings may prove fatal either by reason of their poisonous effect when breathed, or by the gas becoming ignited on the lamps of the miners and causing an explosion.

In order to avoid this danger, one or more drillholes should be kept in the face of the heading, extending at least eight or ten yards in advance of the coal face. The heading should not exceed 8 or 10 ft. in width and flank holes should be drilled at an angle in the rib. Only safety lamps should be used and a close watch must be kept to detect the first appearance of water or gas seeping through the coal. Plugs of soft wood should be kept in readiness to drive into a hole when water is tapped. Every means should be taken to ascertain, if possible, the condition of the old workings. No reliance should be placed on the supposed accuracy of mine maps and surveys.

QUESTION—What are the principal causes of mine fires, and what precautions should be taken to guard against them? Explain the method of approaching and fighting such fires.

ANSWER—Mine fires are chiefly caused by the careless use of open lights, ignition of a gas feeder in blasting coal and permitting it to burn long enough to ignite the coal or timbers. Or, fire may result from a local explosion of gas or dust caused by a blownout or windy shot. Other causes of mine fires are the spontaneous combustion of fine coal and slack thrown into the waste and the sparking of electric wires and motors.

To avoid the occurrence of fire in a mine, strict regulations must be enforced regarding the use of open lights, the installation of all electrical equipment, the handling of combustible material such as hay or oily waste, the handling and use of explosives in blasting coal, and the frequent inspection of all parts of the mine and equipment, including the examination of holes drilled for blasting and the manner of charging, tamping and firing such holes.

When fighting a mine fire, always approach it from the intake side, to avoid being overcome with the gas produced by the fire. A gob fire should be loaded out, as far as this can be done, in steel cars. Fire in the coal or timbers must be extinguished by water and if this fails the place must be sealed off with airtight stoppings. If means are at hand to produce an extinctive gas, the gas should be forced into the fire area.

QUESTION—What quantity of air is passing down a shaft 12 x 20 ft., at a velocity of 300 ft. per min.?

ANSWER—The sectional area of this shaft is $12 \times 20 = 240$ sq.ft. Assum-

ing the average velocity of the air current is 300 ft. per min., the quantity of air passing down the shaft is $300 \times 240 = 72,000$ cu.ft. per min.

QUESTION—A pump discharges 340 gal. of water per minute and has a capacity of 3.4 gal. per stroke; how many revolutions would a single-acting pump have to make in these conditions?

ANSWER—The capacity of the pump being 3.4 gal. per stroke, the number of strokes required to discharge 340 gal. per min. would be $340 \div 3.4 = 100$ strokes in that time. A single-acting pump discharges only on each alternate stroke and, since the pump makes two strokes per revolution, this pump will have to run at a speed of 100 r.p.m. to discharge this amount of water per minute.

QUESTION—What precautions are necessary in charging, tamping and firing shots, to avoid danger? In case of a misfire, what would be your action according to law?

ANSWER—To avoid danger in blasting coal care must be taken to locate the charge where its energy will be consumed in breaking down the coal and not expended on the air. The direction and depth to which the hole is drilled is of the first importance, to insure that the line of least resistance will not coincide with the axis of the hole but extend from the charge to the free surface where it is desired to break the coal. Study closely the character of the seam and hardness of the coal, in order to avoid the shot seaming out in a soft stratum or layer in the coal. The charge must not be located too close to the roof, which would be shattered or weakened by the force of the explosion.

Having located the direction and depth of the hole, the amount of charge is next in importance. This can only be determined by experience in any particular seam. It must be just sufficient to break down the coal. An overcharge of powder will cause a windy or a blownout shot. The charge having been carefully prepared, the cartridge is pushed back to the end of the hole, using for that purpose a wooden or a copper-tipped tampingbar. It is well to insert a small wad of clay on top of the charge before proceeding to tamp the hole. The material used for tamping must be incombustible. Fine coal or slack must never be used for that purpose. The hole should be tamped to the mouth with fine dust taken from the road or other similar material. Care must be taken to avoid injuring the wire leads or fuse used to fire the charge. Electric firing by a hand battery is the safest method to employ.

In case of a misfire, no attempt must be made to drill out the tamping or otherwise recover the shot. The only safe method to employ is to drill another hole at least 12 in. away from the previous hole. This second hole is then charged and fired. Care must now be taken to ascertain if the first charge exploded when the second hole was fired by making a careful search for the unexploded cartridge.

President Believed to Favor Reduction of Freight Rates on Coal

IT IS understood on the highest authority that the President regards freight-rate reduction on coal in the interest of industrial improvement and for the benefit of the public as of first importance in rate readjustment. He is understood to feel that a reduction in the freight rate is of more importance and benefit to the public than a reduction in the price at the mine, realizing, it is said, that the mine price is reasonable. The President is concentrating his efforts on seeking rate reductions on coal and is confident that through this means the public will realize its hope of obtaining coal at more reasonable price. Early rate adjustment is understood also to be regarded as a step in the direction of the seasonal movement of coal, thereby preventing congestion in the autumn.

On the other hand, resistance to rate reductions on coal was manifested in the hearings on the railroad investigation before the Senate Interstate Commerce Committee. All of the railroad witnesses sought to show that it was not possible to reduce rates at this time.

Edward Chambers, vice-president of the A. T. & S. F., said that coal and coke furnished 40 per cent of the commercial tonnage moved by the railroads. He said there had been no direct statement that the movement of coal had been prevented by increased rates. In increasing the rates last year under the Interstate Commerce Commission order, he said, the roads had preserved the relationships which had existed as to the point of production, "which was about all the shippers asked for at that time." He said that manufacturing plants, which are the greatest consumers of fuel, are located close to sources of coal supply and pay the minimum fuel rate. He said the freight rates on coal and also coal prices were low in comparison with those on many other commodities.

New Zealand Mine Workers Want Day Work, Short Week and Short Day

NEW ZEALAND'S coal miners, who admittedly have good working conditions already, have presented new demands to the mine owners. They ask, says the *Christian Science Monitor*, for a six-hour day, a five-day week, the abolition of piece work, a minimum wage of £6 (\$29.22 at normal exchange) a week, the abolition of the afternoon shift, a fortnight's holiday each year on full pay, and an effective voice in the control of the industry.

If these demands were granted, the actual time spent hewing coal by the miner would average from 20 to 25 hours per week. The men have not explained exactly what they mean by an effective voice in the control of the industry, but their idea appears to be the control of mines by committees representing the owners and the workers. The employers have not hesitated in rejecting these demands, and New Zealand appears to be committed to another period of turmoil in the mining industry.

The public men of the Dominion are finding the coal problem a hard nut to crack. The miners are the most militant branch of organized labor. The output of coal is declining year by year owing to stoppings, strikes, deliberately slow work and general disorganization. New Zealand, with rich and easily developed coal fields of its own, is importing coal from Wales, Japan, Australia and the United States.

These conditions have been prevailing for a long time, and one obvious deduction is that private ownership of the mines is a failure. But then the government has mines of its own and they cause industrial discontent just as freely as the private mines.

It appears probable that sooner or later the government will be persuaded to take over all the mines and place them in the hands of a board of management, which will contain representatives of the workers. But before that happens, the mine owners will make another attempt to attain industrial peace by the path of industrial war. They are going to fight the miners' organizations in the time-honored way.

The community at large watches developments with an uneasy conviction that coal will be scarce and dear for a long time yet.

Living Cost Falls 17.5 Per Cent from Peak; Still 68.7 Per Cent Above 1914 Level

MOST recent comprehensive information on changes in the cost of living in the United States, reflecting conditions in representative communities all over the country, was made public May 21 by the National Industrial Conference Board.

The total increase in the cost of living from the beginning of the war to March, 1921, the investigation shows, was 68.7 per cent. The rise in the cost of the major items of the budget of wage earners between July, 1914, and March, 1921, is estimated to have been as follows: Food, 56 per cent; shelter, 71 per cent; clothing, 74 per cent; fuel and light, 87 per cent; sundries, 85 per cent.

The report shows that the peak of the cost of living was reached in the United States in July, 1920. Since then the total cost of living has decreased 17.5 per cent. Food has decreased 29 per cent, clothing 35 per cent, while shelter has increased 8 per cent, and fuel and light 13 per cent, no change having taken place in the cost of sundries.

Since the beginning of last November the total cost of living has decreased 12.6 per cent, food showing a 19 per cent decrease, clothing a 23 per cent decrease, fuel and light a 6.5 per cent decrease and sundries a 4 per cent decrease. The only item in the wage earner's budget which since last winter has shown a tendency to increase is average rents, which have gone up 3 per cent since November, 1920.

The investigation shows that the average cost of light and fuel combined fell 6.5 per cent between November, 1920, and March, 1921. This drop was caused by the decline in the price of coal; the average cost of light advanced within this period. Between July, 1920, and March, 1921, there was, however, a net rise of 13 per cent in the cost of fuel and light, since the increase between July, 1920, and November, 1920, had been very large. The cost of fuel and light generally in March, 1921, was 87 per cent higher than in July before the war.

Hoover to Use Trade Bodies for Contact Between Government and Industry

THE general functions and activities of trade associations were discussed at a conference in Washington, June 3, between Secretary of Commerce Hoover and a committee representing the American Trade Association Executives. The executives' association is made up of representatives of old and established organizations of manufacturers and distributors of single lines of goods or services.

Representatives of the trade associations assured Mr. Hoover of their hearty approval of his statement of June 2 in which he set forth the position of the administration respecting trade organizations. They were told by the Secretary that he was convinced that trade bodies have contributed largely to efficiency in industry and that collective effort, within the proper lines, has the approval of the Government. A smaller number of associations, Mr. Hoover said, have engaged in questionable practices.

The Commerce Department, Mr. Hoover said, intends using the trade associations as one of the points of contact between the Government and industry. The association executives expressed a willingness to co-operate fully and voiced the hope that such co-operation would bring a new era of understanding between the government and business.

Mr. Hoover expressed the belief that one result of co-operation by the department with the associations would be the furtherance of plans for giving wide distribution to helpful production and distribution statistics. He indicated that figures given by the industries to the department would be regarded as confidential and that use would be made of them in no manner that might be objected to by the industries.

The Weather Vane of Industry

News Notes Chronicling the Trend of Industrial Activities on Which Depends the Immediate and Future Market for Coal

NO immediate return to prosperity is in sight, says Archer Wall Douglas, chairman of the Committee on Statistics of the Chamber of Commerce of the United States, in his semi-annual report on business and crop conditions, issued June 11. "There need be no delusions about a resumption of war-time volume of business," Mr. Douglas declares, adding that while things will be quiet during the summer the termination of harvest may bring somewhat better business and a slow and gradual improvement.

"There is a growing realization of the fact," says Mr. Douglas, "that returning prosperity in this country depends upon the recovery of Europe, since she is and will be for a long time to come the best market for our surplus—for that surplus which we have accumulated and still have on hand in every phase of industry. Meanwhile the slow progress of business finds its chief stimulus in the gradual depletion of stocks both of merchandise and commodities, and that demand for replacement and repair which in itself produces the principal volume of our domestic commerce. There is still money to be spent where bargain prices are in evidence, showing that purchasing power is still high, despite many untoward conditions.

"One of the serious conditions—serious because there are immense possibilities of its being much better—is the slow growth of building, due to the continued high costs of the whole of construction. Until these costs are reduced building will be only such as comes from the impulse of necessity. Lumber naturally sympathizes with the inactivity of building and despite its low prices suffers from lack of demand.

"There has been some increase in the output of automobiles, notably in certain localities. All the various phases of leather production and manufacture seem to have struck bottom, both in prices and in demand, and to have had some moderate healthy rebound. The steel industry is running on short time with limited output and reduction of orders in hand. Railroad shops are very quiet. Textiles, more particularly wool and linen, are doing somewhat better, as is likewise the shoe industry, especially in women's footwear.

"The railroads are using their utmost thought and endeavor to get their house in order by reduction in the cost of operation and by various economies. All of which inspires the hope on the part of the general public that these things when accomplished—and they now seem under way—will result in reduced cost of transportation. For such costs of transportation are a heavy handicap, too burdensome to be borne by many commodities, notably lumber and numerous farm products."

Steel Ingot Output Gained in May

The report of the American Iron and Steel Institute, gave the production of steel ingots during May by thirty companies—which represented 85½ per cent of the entire output last year—as 1,265,850 tons. It shows an increase of 51,892 tons compared with April when the output was 1,213,958 tons. There were only twenty-five working days in May, as

against twenty-six in April, so that the figures represent a still higher rate of daily outturn than those of April.

American Woolen Co. Busy

The American Woolen Co. is said to be operating its plants at better than 90 per cent of capacity and expects to maintain this ratio well into midsummer, according to reports.

Less Idleness in Massachusetts

Employment conditions have improved during the past month in six Massachusetts manufacturing cities out of eight in which a survey was made, the State Department of Labor and Industries announced June 6. The survey covered the period from April 30 to May 27 and showed a gain in the eight cities as a whole of 2.6 per cent. The greatest gain was in Brockton, a shoemaking center, with 19.4 per cent. New Bedford, Fall River, Lowell and Lawrence, textile centers, improved between 8 and 2 per cent. and Springfield 1.1 per cent. Boston showed a loss of 3.2 per cent and Worcester of 1 per cent.

Cable Plant for St. Louis

The Standard Underground Cable Co., of Pittsburgh, has purchased 600,000 sq. ft. of ground in the northwestern industrial district of St. Louis, and will begin the erection of a manufacturing plant there before the end of this year, according to an announcement of the St. Louis Chamber of Commerce. It is stated that the expenditure for the new plant will be nearly \$3,000,000.

Philadelphia Mills Expand

Textile mills in the Philadelphia district are reported as buying machinery in large quantities. Some are replacement orders, but a great many are said to be for additional machinery which is being installed to expand output. Silk mills in the Philadelphia district are reported to be increasing production and are nearing 75 per cent normal.

Alabama Mills Resume

The Tuscaloosa Mills, Cottondale, Ala., resumed operations last week on full time, after a suspension of three or four months.

Two Foundries Work Full Time

For the first time since last fall, the *Iron Age* reports, the New Castle, Pa., plant of the American Sheet & Tin Plate Co. is operating full.

The Connecticut Electric Steel Co., Hartford, Conn., is on a six day basis. Heretofore the plant operated on a four days a week schedule.

Foundries affiliated with the Belleville Manufacturers' Association, Belleville, Ill., were shut down recently because of the refusal of foundry laborers and shaker-outs to accept 44c. an hour for a 9-hr. day. The scale paid to union men formerly was 55c. per hr. for an 8-hr. day.

The Bettendorf Co., Bettendorf, Iowa, manufacturer of railroad cars and underframes, has shut down its plant indefinitely because of the scarcity of orders.

Coal Shipments on the Chesapeake & Ohio

SHIPMENTS of coal over the Chesapeake & Ohio R.R. are slowly increasing in volume. The total for April was 37,348 cars, practically the same as for January, but a recovery from the low mark of February of some eleven thousand cars. During 1920 shipments reached the highest mark in August, when the equivalent of 54,493 50-ton cars was handled. The Logan field is the largest served by the C. & O., and in September 20,103 cars of coal were loaded in that field. August was the banner month in the New River, Kanawha and Coal River districts.

COAL ORIGINATING ON THE C. & O. BY DISTRICTS AND BY MONTHS, IN EQUIVALENTS OF 50-TON CARLOADS

1920	New River	Kanawha	Coal River	Logan	Kentucky	Total
January.....	9,501	10,063	4,210	14,671	4,424	42,869
February.....	7,715	8,175	3,764	13,447	3,943	37,044
March.....	10,718	10,287	4,819	15,244	5,369	46,437
April.....	9,044	8,583	3,601	12,742	4,047	38,017
May.....	9,366	7,974	3,751	13,210	4,659	38,960
June.....	9,435	9,000	4,248	15,005	4,249	41,937
July.....	11,485	10,513	4,345	15,984	5,309	47,636
August.....	11,943	11,643	5,300	19,452	6,154	54,492
September.....	10,346	11,451	4,861	20,103	6,284	53,045
October.....	11,455	11,205	5,194	18,892	5,511	52,257
November.....	10,502	10,462	4,581	16,245	5,969	47,759
December.....	9,183	8,743	4,281	14,805	6,274	43,286
Total, 1920.....	120,693	118,099	52,955	198,800	62,192	543,739
1921						
January.....	11,093	7,980	3,300	13,234	3,084	38,691
February.....	6,243	5,852	2,194	9,599	1,891	25,779
March.....	8,066	6,496	2,145	12,282	1,498	30,487
April.....	11,201	5,922	2,876	15,458	1,890	37,347
Total, Jan.-April, 1921...	36,603	26,250	10,515	50,573	8,363	132,304

SHIPMENTS ORIGINATING ON SHORT LINE CONNECTIONS, IN 50-TON CARLOADS

1920	S. V. & E.	Long Fork	A. C. & I.
January.....	2,011	830	218
February.....	2,181	838	188
March.....	2,469	1,106	a...
April.....	1,744	819	...
May.....	1,963	1,226	...
June.....	1,832	1,461	...
July.....	2,311	1,538	...
August.....	2,689	1,798	...
September.....	2,719	1,447	...
October.....	2,580	1,256	...
November.....	b....	...

(a) A. C. & I. records dropped from C. & O. March 1.

(b) S. V. & E. & Long Fork now handled by B. & O. Ry.

Canadian Committee Makes Recommendations to Avert Fuel Shortage

THE Special Parliamentary Committee appointed to investigate the fuel supply of Canada presented its report to the House of Commons at Ottawa on May 30, urging the appointment of a government office to keep in touch with the fuel situation, having sufficient power to cope with any emergency in order that the country may suffer no inconvenience from fuel shortage. Development of the water power, encouragement of transportation of coal by water, encouragement of the use by domestic consumers of Canadian coal, peat and briquets instead of imported anthracite; that consumers be urged to purchase their coal in the early summer and that transportation companies be asked to assist by granting a substantial reduction in freight rates in that season, and that a campaign of education be carried on to teach the people to use Canadian coal wherever possible and instruct them in the best methods of doing so, are the recommendations made.

Fatalities and Injuries at U. S. Coke Ovens Decreased During 1920

ACCIDENTS at all coke ovens operated throughout the United States in 1920, the U. S. Bureau of Mines announces, caused the death of 49 employees and the injury of 3,415 others, a reduction of 4 fatalities and 616 injuries as compared with 1919. The industry employed 28,139 persons during the year and each employee averaged 319 working days. The total working time for all employees was 8,976,214 shifts.

At byproduct ovens 17,184 men were employed, or 1,776

more than in 1919. Of these, 38 were killed and 2,380 were injured by accidents, showing a fatality rate of 1.92 and an injury rate of 120.04 per thousand persons employed, as compared with a rate of 2.55 killed and 158.33 injured in 1919 based upon a standard year of 300 working days. The number of shifts operated at byproduct ovens was 5,948,152, an increase of 894,661 shifts over the year before.

Coke ovens of the beehive type employed 10,955 men, which is 2,378 less than the number employed in 1919. Accidents resulted in the death of 11 men and the injury of 1,035, or 1.09 killed and 102.54 injured per thousand persons employed, as compared with accident rates of 0.92 killed and 125.96 injured in 1919. The total working time at beehive ovens was 3,028,062 days for all employees, or 276 working days per man.

Ludlow Tours Through the Northwest; Philadelphia Section Proposed

EDWIN LUDLOW, president, and Bradley Stoughton, secretary of the A. I. M. E., made a short trip to the Northwest in the interest of the institute, attending on April 5, at the Seattle Engineers' Club, a meeting of the Associated Engineers of Seattle, the Puget Sound Section being represented, and on April 7 to 9 the International Mining Convention at Portland, Ore., where 1,000 engineers and mining men were present. On April 7 an Oregon section was organized by the visitors.

On April 11 the two institute officers addressed a luncheon of the Associated Engineers of Spokane and in the evening a dinner and meeting of the A. I. M. E. members of the Columbia section. The next section visited was that of Montana, a meeting being held at Anaconda on April 12, and at the Silver Bow Club in Butte on the same evening. An informal meeting was held by the Minneapolis-St. Paul section at the University of Minnesota, April 14, and at the Union League Club by the Chicago section, April 15.

At a meeting in Philadelphia of the American Engineering Council, April 16, forty or more of the prominent members of the A. I. M. E. in and near Philadelphia entertained Mr. Ludlow, Herbert Hoover, the president of the Engineering Council, and Mr. Stoughton, addresses being made by Mr. Hoover, Mr. Ludlow and Henry S. Drinker. The toastmaster, S. D. Warriner, presented Mr. Ludlow with a petition signed by twenty-nine members for the formation of a Philadelphia section. A resolution was unanimously passed requesting the directors to appoint a committee to organize a section, the chairman of which should be Mr. Drinker; vice-chairman, Mr. Warriner; executive committee, H. M. Chance, A. A. Stevenson and five other members appointed by the chairman, the committee to call a meeting of all members within fifty miles of Philadelphia for the organization of a section.

Coal on Canadian Crown Lands To Be Mined For Domestic Use Only

REGULATIONS recently issued by the Canadian Department of the Interior permit the mining of coal for domestic purposes, but not for sale, on Crown lands in the Provinces of Alberta, Saskatchewan, Manitoba, Yukon and Northwest Territories and the railway belt in British Columbia.

Mining rights may be obtained for \$5 a year, payable in advance, and in addition to an annual rental of \$1 per acre a year.

The maximum area which may be mined on one permit has been placed at one acre, and only one permit will be issued at a time. A royalty of 25c. per ton of 2,000 pounds will be paid by the person mining.

THE UNITED STATES HOUSING CORPORATION has again called for bids on 9,000 tons of coal for use on the Norfolk-Portsmouth Ferries. Fifteen local bidders made offers for this contract, which has not been awarded. Prices ranged from \$2.90 to \$3.25 per net ton at the mines. The Housing Corporation asked for bids on this contract several months ago, the prices ranging from 3.50 to \$4.25 per ton, but the bids were rejected.

Frelinghuysen and Coal Men Unable to Agree on Coal Legislation; Convincing Public with Compulsion

CONFERENCES between Senator Frelinghuysen and the representatives of the coal industry in Washington on June 7 and 8 were without result in getting support from the industry for the "Coal Industry Stabilization Act." Although reported out from the committee on Interstate Commerce three weeks previously, the conference between the government and the industry had been delayed until the various branches had opportunity to gather and discuss the position they would take toward the measure. At the first meeting this position was manifested in no unmistakable manner. From the outset the coal men voiced their opposition to this or any other legislation that singled out the coal industry for special treatment, no matter how innocuous the law might be.

Representatives of the bituminous operators, the anthracite producers, the retailers and the wholesalers met in executive session on Monday to prepare for the conference on Tuesday. As a result, J. G. Bradley, president of the National Coal Association, acting as spokesman, was able to advise Senator Frelinghuysen that the coal industry as a unit is opposed to his bill and to any form of legislative regulation of the industry. The Secretaries of Commerce and the Interior were present during the first hour of the conference on Tuesday.

In response to the suggestion of the coal men that they were quite willing to furnish on a voluntary basis any and all information desired and called for by the bill it is understood that Mr. Hoover indicated his willingness to go along with such a program but that he questioned whether the public would be satisfied with statistics and other information collected by the bureaus of the coal associations and passed along to the government. He pointed out that, the world over, there is a definite public opinion developing that would place coal next in line to the railroads with respect to government regulation and control. He suggested that the best counter measure appeared to be co-operation between the government and the industry looking to better knowledge on the part of the public of the problems of the industry.

HOOVER NOT COMMITTED TO ANY BILL

It is understood that Mr. Hoover has no way committed himself to this particular bill or any other form of legislation, his desire being that the information on which business can be better done should be available to the public through the government. The absence of the Secretary of Commerce from the conference on the second day was explained on the ground that the matter under discussion is one of legislation and therefore outside of his province. Secretary Fall of the Interior Department contributed nothing to the conference. So unproductive of results was the meeting on June 7 that it was agreed to adjourn until the next morning.

The second day's conference was opened with the suggestion on the part of Mr. Bradley that the organic act of the Department of Commerce be amended to include mines and quarries with manufactures, with respect to which the department now has under the law very wide powers to make investigations. It was pointed

out that such a course would give the Secretary of Commerce authority to obtain all the reports from the coal trade that could be collected under the proposed bill of Senator Frelinghuysen and that such an amendment would be acceptable to the coal industry because it would put all mineral products in the same category and not subject coal to special treatment.

Senator Frelinghuysen flatly rejected the idea and said that there must be a coal bill and that if it was desirable to have other minerals similarly treated it should be by adding them to his coal bill. He argued at considerable length with respect to the public demand for special coal legislation, holding forth the opinion that only by the acceptance now of some mild measure such as he was proposing could more restrictive legislation be forestalled later in the event that prices of coal again went up. The Senator also opposed the idea of obtaining the coal legislation he desired by amendment of the Commerce Act because that method would also require changes in the organic act of the Geological Survey and possibly also of other bureaus. In short, he termed the proposal of the coal operators an attempt to drag a "red herring over the trail." He further stated that he would consider changes in his bill but that he would not abandon the central object of the proposal—to have a special coal act.

ANTHRACITE MEN ANXIOUS TO EFFECT AGREEMENT

An open break at this time was forestalled by Mr. Connell, representing the anthracite producers, who assured the Senator that they were there to try to effect a meeting of minds on the subject and would like the opportunity to sit with him in a smaller meeting and try to agree on the terms of a bill that would be acceptable to all. To this the Senator replied that emphatically he was through with meetings and that he would wait no longer before pressing the bill for passage on the floor of the Senate. He finally agreed to wait for a reasonable time—three or four days at most—to give the coal men opportunity to present to him in writing any amendments supported by arguments, which he said he would consider, and, whether he agreed or not, would place before the full committee of the Senate that had reported the bill out.

The idea that had gained more or less credence in Washington in the past few weeks that the National Coal Association had given its support to the bill as a result of having previously suggested certain changes in the former bill, was dispelled when the Senator from New Jersey was discussing the measure with Mr. Stephens, of New York, representing the retail dealers. Mr. Stephens complained that the retailers had had no opportunity to file with him their objections and to have their attorneys go over the measure as had the coal association. To this the Senator replied that all the attorneys of the National Coal Association had done was to make some suggestions to him and that they had no more chance to revise the bill than had anyone else. In this discussion Mr. Stephens made it clear that the retailers are opposed to any bill that even tends to set the prices at which they shall sell coal. They would prefer that the possibilities of helping the coal busi-

ness through giving information to the government be tried out on a voluntary basis before they submitted to legislation to effect this result.

In an attempt to explain what would be accomplished by this bill the Senator said that there is now no one in the government to whom a coal consumer can take his questions with respect to coal. If he thinks that he is being charged too much for his coal he has no one in authority to ask for the facts. The Senator admitted that one expectation and purpose is to furnish a means for holding down the seller of coal, and it is believed that this result can be accomplished by publicity of facts regarding mine prices, freight rates, and local retail prices at different cities. It was evident that Mr. Frelinghuysen did not convince the coal men that he could control prices to the public by any such simple process, for they told him that if such a result were hoped for, it would be accomplished only by taking the next step, actual control, to which they are opposed.

As the conference of the second day was drawing to a close, and there appeared no weakening in the opposition of the coal men, Senator Frelinghuysen endeavored to obtain from the coal men an expression of opinion as to whether they were opposed to the principle of his bill or whether they were in sympathy with the principle but not with the form of the proposed act. In reply the anthracite and bituminous producers stated that they were agreed with the principle involved—namely, the furnishing of information to the public through the government—but that they are opposed to the terms of the present bill. The retailers would not endorse the program and Mr. Cushing asked, "Where does it lead?" The Senator turned to Mr. Cushing and replied with the question, "If prices again go up, where will that lead?" He reiterated his belief in the public demand for special coal legislation and said that there must be a proper degree of publicity with respect to the necessities of life. "You must give this to the public and you must trust your government," he said.

VOLUNTARY DATA CONSIDERED UNACCEPTABLE

In his report to the convention of the American Wholesale Coal Association, in session in Washington at the same time, Mr. Swayne later summarized the situation by stating that it had been fairly definitely asserted that the offer of the coal trade to give on a voluntary basis all the data on production, distribution, stocks and prices was not satisfactory to the government. The exact reason why this offer for such full details of the coal business is not satisfactory had not been accurately or forcefully presented by the government. "The impression I get," said Mr. Swayne, "is that the government feels that unless this information is the result of compulsion, it will not be accepted by the public as accurate." He felt that whenever they had tried to get a specific reason why voluntary reports were not satisfactory, they were turned off on other subjects. All were agreed, he reported, that it was essential to have the information and that the coal industry is unanimous in offering to give it on a voluntary basis and would not oppose giving it as a result of legislation if it could feel assured that such legislation would not lead further than simply the collection of statistics. The coal men seem to feel, however, that this legislation goes beyond that and is the precursor of regulation and some form of inquisitorial legislation.

It was generally felt that the best argument advanced

against the proposed legislation was contained in a statement of Senator Calder, who was present at the first conference at the invitation of the Senator from New Jersey. Senator Calder said that he would support the bill because he considered it a step in the direction of the more definite and regulatory measures he favored and hoped ultimately to see enacted. The effect on the coal men of this statement of Senator Calder was in no wise softened by a subsequent assertion of Senator Frelinghuysen to the effect that he would strenuously fight any regulation that might be proposed by the "radicals" in the Senate, even though they be in the form of amendments proposed to his bill.

Senator Calder is reported to have said: "I still believe in my own bill. Nevertheless, I endorse the Frelinghuysen bill because it is the necessary first step. I see no need for further discussion. These men oppose legislation. I knew what their attitude was going to be before I came here. This is no longer a matter for conference; it is a matter for us to decide on the hill."

Senator Frelinghuysen, later, said: "I cannot change my bill to include all commodities because coal is too vital to the railroads and to the public utilities, which have both been brought under regulation."

Frelinghuysen Insists on Compulsory Reports of Coal Facts

Opposition Said to Come from Wholesalers and Retailers—Operators Likely To Be Enlisted Against Bill

BY PAUL WOOTEN

NOTHING less than compulsory fact-finding can meet the exigencies in the coal situation. This statement was made by Senator Frelinghuysen to the correspondent of *Coal Age*, to whom he stated most emphatically that he would insist upon this legislation being kept before the Senate until a final vote is had on the measure. He expressed the opinion that the principal opposition to the measure is coming from the wholesalers and the retailers. It is his conclusion that the majority of the operators would be willing to accept his bill.

The only official statement forthcoming from the operators was the following from J. G. Bradley, president of the National Coal Association:

"At the conference this morning between representatives of the coal industry and Senator Frelinghuysen and Secretary of the Interior Fall and Secretary of Commerce Hoover, the coal men expressed their readiness to furnish voluntarily and without any legislative requirement all the information desired by Secretary Fall and Secretary Hoover regarding production, distribution and prices in the industry.

"In view of this entire readiness of the coal industry to assist Secretaries Fall and Hoover to obtain and publish immediately and currently the facts in regard to production, distribution and prices which they desire for the information of the government, the public and the industry, there is no necessity for any legislation to require the furnishing of that information; and therefore we assume that the administration will follow its announced policy of desiring to avoid regulation of industry and the interference of government in business and will not countenance inquisitorial legislation with respect to the coal industry.

"We are entirely willing to collect this information through the statistical bureaus in the industry, or in any other way that may be thought desirable, so far as possible, and turn it over to the Secretary of the Interior and the Secretary of Commerce for publication currently for the information of government officials and the public. We are also entirely willing to permit the Secretary of the Interior

and the Secretary of Commerce, either in person or through any employees of their departments, to check the data of these statistical bureaus and satisfy themselves as to the reliability of the information thus obtained."

That this statement presents the matter in a way best calculated to allay friction and to prevent needless controversy is admitted generally, but there is a feeling among many operators that compulsory fact finding is likely to work out greatly to the advantage of the coal producers. More operators would be willing to accept the legislation, it is believed, if they could be assured that the bill will go on the statute books in its present form. It is feared, however, that once this bill is taken up on the floor of the Senate, a long-awaited opportunity will come to those who would regulate the coal industry. They then would be able to present amendments, which would be very objectionable to the coal producers, in such form as practically to insure their embodiment in the measure. By applying compulsory fact finding to wholesalers and retailers, as well as to operators, it is believed that an effective influence would be brought to bear in preventing a runaway market. Many operators would be glad to have the public advised currently as to the component parts into which the cost of coal to the ultimate consumer is divided, believing that this would work out advantageously for the producer when his statistics were compared with those of the wholesaler and the retailer.

Despite the feeling on the part of many operators that it would be better to accept this legislation, circumstances are combining to draw the operators into the fight against the bill, and it is freely predicted that they soon will be

found opposing the measure just as vigorously as are the wholesalers and retailers. This measure is likely to precipitate a threshing out of the whole issue of regulation.

On the other hand, it is apparent that there is no particular enthusiasm in Congress at this time to enter upon the consideration of such a controverted question. Senator Frelinghuysen has given notice that he will call up his bills immediately following a vote on the packers' bill. There is considerable doubt as to whether the Senate leaders will consent to such a program. It is not improbable that they will allow the seasonal rate bill to come up, as it doubtless can be passed without protracted discussion.

If the Republican leaders should decline to give the fact-finding bill a place on the legislative slate, it would be difficult to press the bill to a final vote in the near future. The coal industry has many friends in Congress.

The producers, the wholesalers and the retailers still are hopeful that Congress can be convinced that compulsory statistics are not necessary. It may not be possible, it is admitted, to obtain 100 per cent returns on a voluntary basis, but they hope to be able to convince Congress that a sufficiently large percentage of returns will be forthcoming on that basis to make possible just as accurate conclusions as would be the case if every individual made returns. In that connection it may be stated that many are of the opinion that existing law authorizes the Department of Commerce and the Department of the Interior to demand returns.

An effort to begin consideration of the Frelinghuysen fact-finding and seasonal rate bills was to have been made in the Senate June 15.

Coal Wholesalers Study Traffic and Transportation Problems at Fifth Annual Convention

WASHINGTON proved to be a popular place for the fifth annual convention of the American Wholesale Coal Association, as was evidenced by the fact that the sights of the town attracted more attention from the visitors than did the proceedings on the floor. Notwithstanding the counter attractions of the capital city the sessions were well attended by delegates from all over the country and notwithstanding the interruptions to the program caused by the conference simultaneously staged by Senator Frelinghuysen at the Interior Building, at which the officers of the association were obliged to be present, a number of interesting talks were given and there was some discussion. The feature of the convention most enjoyed by the largest portion of those attending was the banquet on Tuesday evening at the Washington Hotel. Irvin S. Cobb and Ty Cobb were the speakers and the evening will long be remembered by those who were present.

The topic given greatest consideration on the floor of the convention was traffic and transportation. William A. Wimbish and G. N. Snider on Tuesday and Judge Arthur Hayes on Wednesday addressed their remarks to these subjects. The first named covered the subject generally and Mr. Snider spoke more particularly on the matter of reconsigning as a service performed by the railroads for which adequate compensation must be allowed. He also argued against the assumption by the wholesalers' association of a specialized traffic department. Judge Hayes spoke in favor of a traffic secretary for the organization and he carried his point, for the convention voted to authorize the formation of a traffic bureau to handle special problems.

Major W. R. Coyle, vice president of Weston Dodson & Co. and one of the most popular men in the trade, was elected president. The officers, executive committee and directors for the ensuing year are as follows:

W. R. Coyle, President,
Bethlehem, Pa.

C. L. Dering, Vice President, G. H. Merryweather, Sec'y-
Chicago, Ill. Treasurer, Chicago, Ill.

BOARD OF DIRECTORS

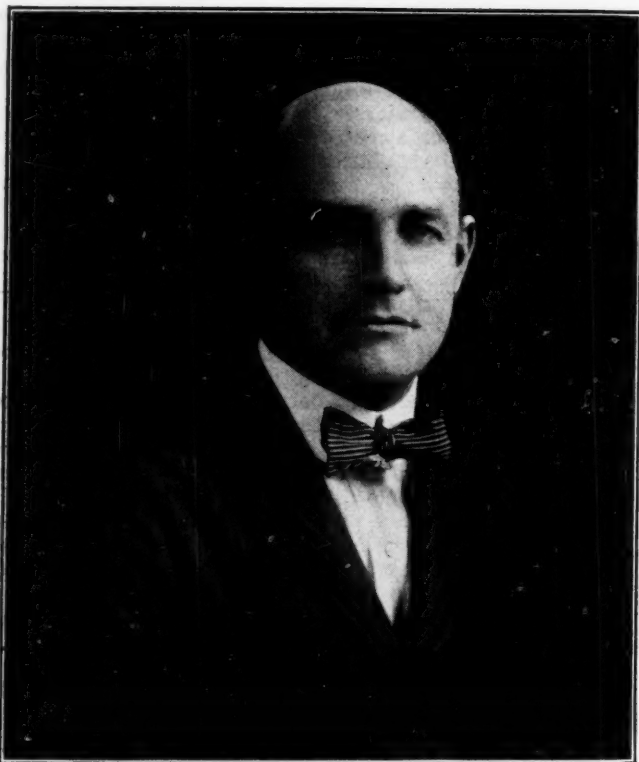
R. T. Daniels, W. D. Eyre,
National Coal & Coke Co., Eyre Fuel Co.,
Birmingham, Ala. New York City.

G. H. Reeves,
Reeves Coal & Dock Co.,
Minneapolis, Minn.
W. J. Teter,
W. J. Teter Coal Co.,
Indianapolis, Ind.
John J. Sheehan,
Dominion Coal & Coke Co.,
Baltimore, Md.
*W. E. Macurda,
Garfield & Proctor Coal Co.,
Boston, Mass.
*C. C. Corey,
C. C. Corey,
Detroit, Mich.
C. A. Weinhart,
Commercial Coal Co.,
Grand Rapids, Mich.
R. H. Lee,
J. H. Leonard Coal Co.,
Kansas City, Mo.
Alexander Yule,
Pioneer Coal & Coke Co.,
St. Louis, Mo.
F. S. Martin,
F. S. Martin & Co.,
Omaha, Neb.
J. Conrad Max,
J. Conrad Max & Co.,
Utica, N. Y.
J. Bert Ross,
J. Bert Ross Coal Co.,
Buffalo, N. Y.
*H. L. Frostbauer,
Lake City Coal Co.,
Cleveland, Ohio.

Fred Legg,
Logan & Kanawha Coal Co.,
Cincinnati, Ohio.
J. M. Taylor,
John M. Taylor Coal Co.,
Columbus, Ohio.
*H. J. Heywood,
W. A. Gosline & Co.,
Toledo, Ohio.
R. H. Knode,
The Wentz Company,
Philadelphia, Pa.
*Jay W. Johns,
Straub-Atkinson Coal & Coke Co.,
Pittsburgh, Pa.
W. J. Prescott,
Memphis Coal Co.,
Memphis, Tenn.
*L. S. Evans,
Eastern Coal & Export Corp.,
Richmond, Va.
M. L. Taylor,
Morgantown Coal Co.,
Morgantown, W. Va.
C. G. McGill,
William McGill & Co.,
Toronto, Ont., Canada.
J. F. Hersey,
Cherokee Coal Co.,
Louisville, Ky.
H. M. Bowman,
New England Coal Agency,
New Haven, Conn.
*Executive Committee.

E. J. McVann, secretary of the Smokeless Coal Association, and Ellery Gordon, secretary-manager of the National Retail Coal Merchants Association, were speakers on the morning of the first day. Mr. McVann entertained the audience in his usual pleasing style, not confining his remarks entirely to the subject of "Exports and Ships," about which he said he knew very little, although he proceeded to say much of interest. Mr. Gordon gave a serious talk on association work and urged greater financial support for the organizations.

The meetings of both days were halted to receive reports from the delegates attending the Frelinghuysen conference on pending legislation. Both Major Coyle and Mr. Swayne made brief reports on the progress or lack of progress at that conference. There was no discussion of the subject of



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MAJOR W. R. COYLE

President elect, American Wholesale Coal Association.

legislation by the delegates. The last feature of the convention was a visit to the White House, where with several other delegations, opportunity was offered to shake the hand of President Harding.

The resolution committee brought in the following resolutions which were unanimously adopted:

We the members of the American Wholesale Coal Association, in annual convention assembled, having a sincere faith in our rights as Americans, our privilege as patriots and our obligations as patriotic American merchants, do publish and declare the following articles as the expression of our mature opinion on matters which are perhaps peculiarly within the scope of our knowledge and opinion.

I. We endorse emphatically the action of this convention in 1920 condemning the efforts toward Federal control of coal; we record with no little pride our own part in the repeal of those war-time laws by which Congress divested itself of power in favor of various administrative officers; and under our own power do petition the government sincerely and in the name of five millions of Americans engaged in coal and allied industries request, nay, even of our right demand, that no more socialistic experiments be tried under the guise of friendly or adverse legislation on this industry, which is but just beginning to recover from the effects of too many doctors.

II. *Railroad Embargoes*—While conceding to the railway the right to declare embargoes on account of the congestion and for the duration of the congestion only, we insist that all embargo notices shall be so drawn as to restrict shipment to the congested district, and not to discriminate unfairly against any of the shippers or consumers who habitually use that terminal or district.

III. *Unity in the Coal Trade*—We approve the general plan as outlined last year, record material progress made in this direction toward trade unity and recommend to the Board of Directors for the ensuing year further conferences of committees of the national associations of the various branches of the coal trade.

IV. *Railway Revenue*—We recognize that additional revenue to the railways cannot come from higher rates and smaller volume and commend to the serious consideration of the railways and the Interstate Commerce Commission the necessity for the application to the railways of some of the established principles of merchandising whereby reduced prices are often found to produce increased profits. Freight rates apparently cannot soon come down, but until they do the equivalent of the dollar on raw materials cannot be materially increased. The downward revision when it comes should be developed with as little disturbance to established commercial practices as is possible.

V. The wholesaler bore the brunt of complaint on the upward swing of prices; do not now withhold acknowledgment of the fact that in many cases he saved the day on the downward crash.

VI. *Merchandising Margin*—The risk in this business being now a recent experience of all of our members, we think that no one will gainsay that the wholesaler is worth any margin he can earn and 8 per cent never was an unreasonable minimum figure when based on the quoted price.

VII. *Confiscations*—The courts in several cases in the course of the past year have ruled in effect that our claims that seized property by carrier or by government was subject to the fundamental law of the land and when taken was with the merchant's rights attached; we recommend the selection of a claim agency to expedite the settlement of the many remaining claims against the government and the railways.

VIII. *Claims*—This association approves the theory of a uniform set of rules regarding the presentation of claims and the settlement of claims between the shippers and the common carriers. In order to open an intelligent discussion on this subject it calls upon those officers of the Railroad Administration who are custodians of a certain set of rules covering the presentation of these claims, which rules were carefully drawn by a joint committee of shippers and railroad claim agents, to publish these rules or to send them with the endorsement of the committee to the Interstate Commerce Commission or the proper tribunal for approval and promulgation.

IX. *Traffic Matters*—We commend the effective administration of the traffic committee under Mr. Morton's guidance and recommend to your favorable consideration the detailed report they make.

X. *Financial Relief*—We ask for the speedy repeal of such restrictive laws regarding rail and ocean transportation and the operation of vessels and trains as now render us unable to compete in the markets of the world and confidently look for the early restoration of competition which will come with ability to compete.

XI. We approve for our association and its members one program: Buy from producer, sell direct to retailer or wholesale consumer, respect your other affiliations, ship coal properly routed as fair prices and follow one motto—*Pro bono publico*.

Hopes Held of Speedy End to British Strike

WITH the promise of the officers of the Miners' Federation, made June 10, that they would submit to the rank and file of that organization the proposals of the mine owners the British coal strike situation is greatly improved. The vote was taken yesterday, Wednesday, June 15, but it is too early to record the result. However, there is a general feeling that the offer will be accepted and that the strike will come to an end next Monday, June 20.

The mine owners' offer guarantees to the miners, as a minimum for twelve months, a 20-per cent advance on pre-war wages. It also arranges for the waiving of the owners' profits for a certain period. A national wage board is to be appointed under a chairman who has no connection with the coal industry. This board will determine standard wages and the ratio of wages to profits. The agreement proposed makes no mention of the famous national pool that was planned to divide all profits and to pay the mine workers a wage having no relation to the amount of coal their work produced.

The abandonment of this pool is a bitter condition of industrial peace for the mine worker to accept. The strike was really started to compel its adoption. A definite question as to the pool will be put on the ballot, but it is thought that mine workers will not be disposed to vote for it, as it will mean a continuance of the strike which now cannot be persisted in without starvation. The miners' suspension of work may now be regarded as a grim hunger strike.

The miners' unions have pledged all they have, even their headquarters. The Miners' Federation is said to have spent fifteen million dollars in maintaining the strike. The other unions can do little to help, for their own men are idle for the lack of fuel and these unions are themselves paying out large sums in unemployment subsidies.

The average pay under the agreement will range from 69 to 115d. per shift (\$1.40 to \$2.34 at normal exchange) according to districts, with special allowances at the end of twelve months to the lower paid day workers if the wages current do not afford a subsistence wage. If the agreement is accepted new district boards will redistribute the districts on an economic instead of on a geographical basis.

Hoover Believed Sure to Get \$500,000 Asked to Aid Industry

WITH the passage of the second deficiency bill by the Senate, the Department of Commerce is certain to receive the \$500,000 asked by Secretary Hoover for the specific purpose of aiding industry. Of the amount, \$250,000 will be expended in an effort to encourage foreign trade. The remainder will be utilized in various types of investigation and research looking to simplification, standardization and improvement in industrial practices and devices. The detailed plans for expending this money in the most effective way possible now are being worked out. As this is written the bill still is in conference, but no great amount of difficulty is expected in harmonizing the differences between the bill as passed by the House and as it finally emerged from the Senate. That the President will sign the bill is a foregone conclusion.

Supreme Court Refuses Stay of Injunction To Hardwood Manufacturers

THE U. S. Supreme Court on June 1 denied the petition of the American Hardwood Manufacturers' Association for a writ of supersedeas to serve as a stay against the injunction obtained by the government to prevent the members from exchanging price information.

On the ground that the "open-competition" plan of the association was in violation of anti-trust laws, the government obtained a permanent injunction in March, 1920, from Federal Judge McCall, at Memphis, Tenn., prohibiting members of the association from exchanging reports on production, sales and prices.

Senate Bills Would Establish Department of Mines; Bain Cites Advantages

A DETERMINED movement has been launched looking to the establishment of a new federal department which will administer matters pertaining to mines and the mineral industries. Two bills having that objective in view have been introduced in the Senate, one by Senator Nicholson, of Colorado, and the other by Senator Shortridge, of California. The Nicholson bill provides that the proposed department be composed of the U. S. Geological Survey, the Bureau of Mines and the General Land Office and that it absorb the functions of the War Minerals Relief Commission. The Shortridge bill is more comprehensive, in that it would include in the department, in addition to the agencies mentioned by the Nicholson bill, the Federal Power Commission, the California Débris Commission, the Alaskan Engineering Commission and the Bureau of Explosives of the Interstate Commerce Commission. In addition, that portion of the work of the Bureau of Standards and of the Indian Office which deals with mineral raw materials or mineral lands would be transferred to the Department of Mines. The Shortridge bill takes over only the mineral land work of the General Land Office.

H. Foster Bain, director of the U. S. Bureau of Mines, in commenting on the proposal to establish a Department of Mines, said:

"The movement for a Department of Mines comes naturally at this time, in view of the agitation for a reorganization of the government's administrative machinery. The proposal is not new. Mining men for many years have been convinced that such a department should be created. The reports of the congressional committees at the time the Bureau of Mines was formed show that it was the distinct purpose to create a Bureau of Mines as the first step toward enlarging and centralizing governmental activities having to do with mining. The end of the ten-year period during which the Bureau of Mines has functioned as a separate bureau doubtless is regarded as the natural time to take the next step in the movement.

"It is important in federal reorganization not to lose sight of the fact that mining, as well as agriculture, is a basic industry dealing with a raw material on which commerce, transportation and manufacturing all depend heavily.

There are important advantages in having the government's activities on these basic materials centralized where it is possible to assemble groups of men having special knowledge of them."

J. W. Searles Made a Vice-President of Pennsylvania Coal & Coke Corporation

J. W. SEARLES, who was recently elected to the Board of Directors of the Pennsylvania Coal & Coke Corporation, has been made vice-president in charge of sales. On June 1 Mr. Searles completed twenty years of service with the Pennsylvania Coal & Coke Corporation and its predecessors, having joined the staff of the Webster Coal & Coke Co. in 1901.

Upon the organization of the Pennsylvania Coal & Coke Corporation in 1911, Mr. Searles was appointed general sales agent, his title being changed about a year ago to that



J. W. SEARLES
Vice-President in Charge of Sales,
Pennsylvania Coal & Coke Corporation

of general sales manager. Mr. Searles also is vice-president and general manager of the North River Coal & Wharf Co., and is a member of the Board of Directors of that company.

Prior to his entry into the coal business, Mr. Searles had had a number of years' experience in the mercantile business and in the freight traffic departments of the Pennsylvania R.R. at Baltimore and Philadelphia. When the Tidewater Coal Exchange was formed in June, 1917, Mr. Searles was appointed deputy commissioner at New York and perfected an organization which was later utilized by the Fuel Administration in the distribution of bituminous coal reaching the New York reshipping piers. On May 1, 1919, he resumed his duties with the Pennsylvania Coal & Coke Corporation.

IN A NEWS ITEM in *Coal Age*, June 9, announcing the resignation of J. W. Howe as commissioner of the Tidewater Coal Exchange, Inc., it was stated through a typographical error that L. A. Snead was a candidate for the position. It should have been S. T. Snead.

Alabama Mines Reduce Wages of Employees

WAGE adjustments have been made at quite a few of the commercial mines in Alabama and also at the operations of some of the furnace companies, which, as a result, have blown in their idle stacks lately. The decrease in wages is understood to range from 18 to 20 per cent. The adjustments in wage schedules were amicably received by the operatives and in some instances they actually insisted that wages be reduced enough to insure such a lower production cost that the operators would be enabled successfully to compete with the coal from other fields. This outside coal was being sold in Alabama territory at figures which could not be met locally and idleness in the coal fields was becoming a serious problem. The large railroad coal contracts recently closed were based on wage reductions and had not material price concessions been made they would have gone to other fields to the disadvantage not only of the mine workers and operators but of every one else in Alabama.

Sutherland Bill Would Assure Proportionate Distribution of Coal Cars to Mines

SENATOR SUTHERLAND, of West Virginia, has introduced a bill providing that the Transportation Act of 1920 shall not be construed as authorizing the Interstate Commerce Commission at any time to suspend, modify, cancel, alter or amend the law which requires equal proportionate distribution of cars to coal mines.

Central Pennsylvania Operators Call On Miners to Accept Wage Reduction

OPERATORS of the Central Pennsylvania coal field are much incensed that the mine workers of that region refuse to meet them in conference. At a joint meeting of the Central Coal Association and the Central Pennsylvania Coal Producers' Association held in Altoona on the evening of June 10, at which J. S. Sommerville, of Robertsdale, presided, the communications of John Brophy and Mr. Sommerville relative to the request for a conference were read.

T. H. Watkins, of New York, who was the first speaker, declared in favor of collective bargaining and the right of labor to organize but contended that the union men have no limit to their ambitions and seek to get all they can regardless of the interests of the public. He declared that if something is not done soon this country will be where England is now. Mr. Watkins declared the men in control of the United Mine Workers have taken a stranglehold on the industries of the country, and the time has come when they must be curbed. A proper equity must be established. Mr. Watkins declared that as far as he is concerned he is through with John Brophy, knowing that no quarter can come from him. He advocated a direct appeal to the president of the United States.

H. J. Meehan, of Johnstown, and State Senator Irvin Stineman, of South Fork, opposed appealing to the government beyond explaining the situation to Secretary of Labor Davis. Many other members of the association outlined business conditions and condemned the United Mine Workers for their unfair practices and the railroad companies for confiscating their coal. Attorney A. M. Liveright, of Clearfield, discussed the legal questions arising out of the controversy. Much interest centers in the meeting which the executive committee of the local association will hold on June 17.

J. S. Sommerville, president of the Central Coal Association, in discussing the controversy with the United Mine Workers at the meeting of the association in Altoona on June 10, said: "The refusal of the United Mine Workers to meet the operators is regarded as a refutation of the principle of collective bargaining and a total collapse of the whole system of contract relationship heretofore in force between the operators and miners. Because of the numer-

ous abrogations of their contracts since 1914 by the United Mine Workers, it is the consensus of opinion that future relations with the Mine Workers will have to be on an entirely different basis."

This situation has become so serious that it was held over for further consideration at the meeting to be held on June 17. The situation is further complicated by the advice of counsel to the effect that the operators are liable to indictment for collecting dues or revenues of the union from the pay envelopes of the employees and for turning the money over to the United Mine Workers. Action on this will be taken at the meeting on June 17.

Mine Cave Voluntary Agreement Terminated

ATORNEY J. HAYDEN OLIVER, representative of the ten anthracite coal companies who were signatories to the mine-cave voluntary agreement, presented, on June 2, notice of the fact that the coal companies had abrogated that agreement. The \$100,000 fund for emergency use held on deposit with the Lackawanna Trust Co. was withdrawn from that institution and turned over to W. G. Van De Water, secretary of the Glen Alden Coal Co., for equal distribution among the companies that signed the agreement.

The commission has been in existence for two years and five months and during that time approximately \$1,000,000 has been expended in wholly or temporarily repairing 1,500 buildings damaged by subsidence. Repairs also have been made to streets and sewers. About six hundred buildings that have sustained damage have received no repairs but W. W. Inglis, general manager of the Glen Alden Coal Co., has advised the public of the intention of his company to continue indefinitely the repair of damaged property.

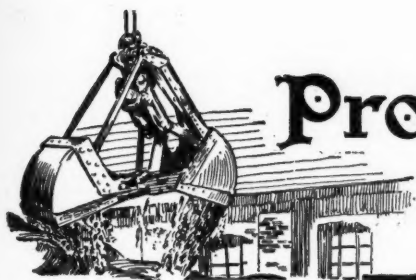
The signatories to the voluntary agreement now abrogated were the Delaware, Lackawanna & Western Railroad Co., Scranton Coal Co., Pennsylvania Coal Co., Bull's Head Coal Co., Quinn Coal Co., John Gibbons Coal Co., Spencer Coal Co., Carney & Brown Coal Co., Green Ridge Coal Co. and the Nay Aug Coal Co. The commissioners whose terms of office are ended are Arthur W. Long, Tudor R. Williams and William A. Phillips.

The mine caves still continue. A block in West Scranton on Hampton St. was damaged by subsidence on June 8, eight homes being affected. Several gas and water mains were badly damaged, the area having to be roped off by the police.

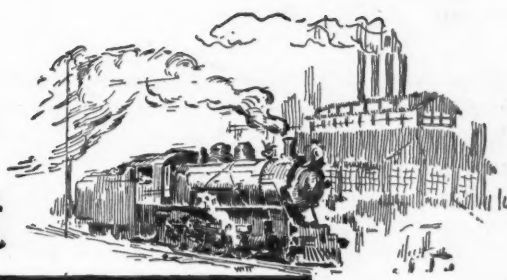
A MAP AND INDEX of all bituminous coal mines in Pennsylvania has been prepared and published by the Central Pennsylvania Coal Producers Association. The map, about 4 x 5 ft., shows exact location of every mine. Railroads are in colors. The index accompanying the map gives a complete numerical list of mines, the numbers corresponding with those on the map. This list is followed by one giving the companies in alphabetical order, and finally by a list giving the mines in alphabetical order. This publication, the most complete that has ever been prepared for any large coal field, is for sale and can be had upon application to Charles O'Neil, secretary and treasurer, Central Pennsylvania Coal Producers Association, Altoona, Pa.

IN VIEW OF SENATOR FREYLINGHUYSEN'S determination to push his bill providing for compulsory fact-finding, J. D. A. Morrow, vice-president of the National Coal Association, in charge of its Washington office, has given up his trip to Europe. Mr. Morrow purposed attending the meeting of the International Chamber of Commerce in London as a delegate of the National Coal Association and as a member of the International Chamber's committee on raw materials. As the Frelinghuysen bill, with the ever present possibility of its being made more drastic by amendment, will precipitate such a grave issue, Mr. Morrow felt that he should not be absent during its consideration.

THE FREYLINGHUYSEN FACT-FINDING BILL was the subject of discussion June 15 at a meeting in Washington of the Board of Directors and the government relations committee of the National Coal Association.



Production and the Market



Weekly Review

STILL further recessions in prices during the second week of June marked the progress of the bituminous coal trade from spring dullness to summer lethargy. *Coal Age* index declined one point, from 96 on June 7 to 95 on June 14. But one coal showed strength, Pittsburgh screened gas, and that resulted from the marking up of the price after a brief recession below schedule. In nearly every other field lack of demand for spot shipments brought small breaks in prices on current orders.

Along the Atlantic seaboard extreme dullness continues. The end of the British strike has been discounted well in advance and business strictly dependent on England's stoppage has largely ceased. Offshore exports in May were 1,559,000 net tons, largely (1,217,000 tons) through Hampton Roads, a record within 200,000 tons of the highest point reached (October) last year. Despite the large movement, prices of smokeless coal at Tidewater have dropped.

In the first few days of June English buyers were actively seeking coal for clearance by the end of the first week, but refused to consider tonnage after that date. This, it was later shown, was due to the anticipated settlement of the strike by June 20, and was the result of an effort to get coal to the United Kingdom prior to that date. It is reported that some British

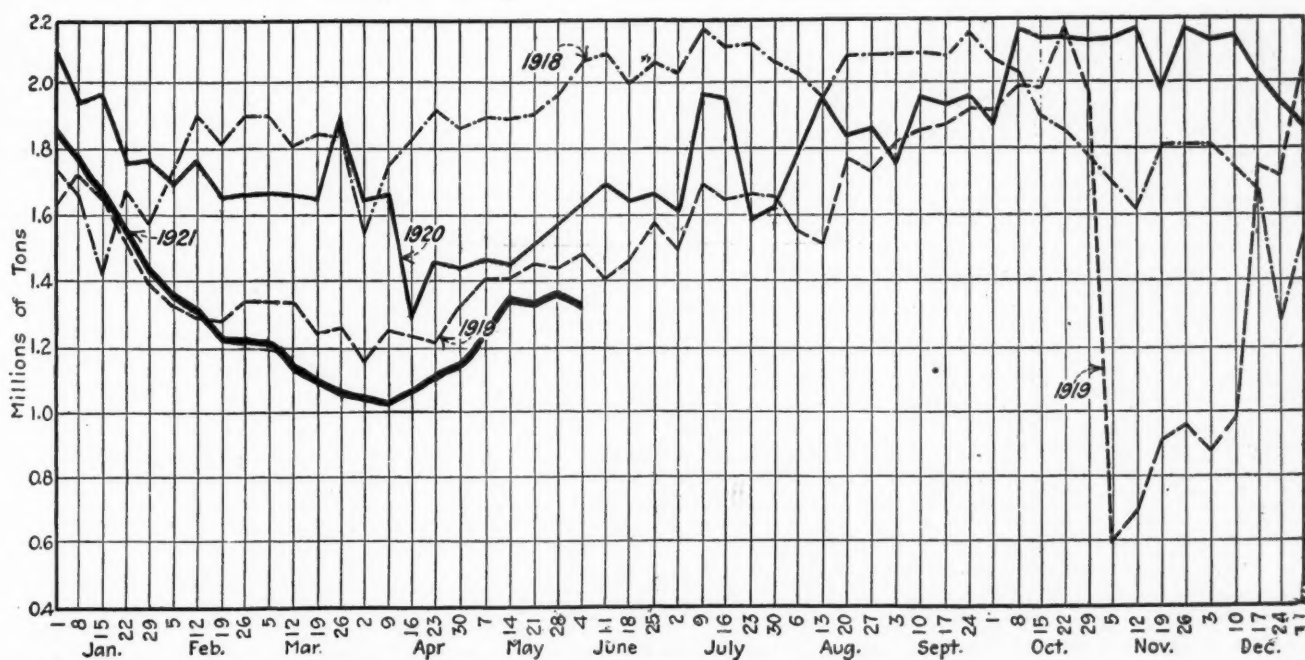
shippers are now quoting prices for July coal deliveries. It is interesting to note that exports from this country by water in April, May and prospectively in June, total about 1,200,000 tons above the rate of shipment during the first three months of the year. This is a measure in tons of what to date the strike in Great Britain has meant to our export trade.

BITUMINOUS OUTPUT EQUAL TO CONSUMPTION

Production of bituminous coal is holding steady at the rate of 8,000,000 tons a week. Actual output in the week of June 4 was but 6,835,000 tons, due to the holiday, May 30. In the past four weeks production has been approximately equal to consumption—that is, about 30,000,000 tons a month, after deducting total exports. A comfortable tonnage is moving on contract and new contracts are being closed. During the past week three large railroads in the South closed for 1,625,000 tons of Alabama coal at prices made possible only by the wage reductions of from 18 to 20 per cent arrived at simultaneously.

Every effort to open discussion with the United Mine Workers for wage reductions has failed. Central Pennsylvania producers have tried it and with results that will cause others to hesitate. We see no prospect of reductions in union wages this summer. No one can

Daily Average Production of Bituminous Coal*



*From weekly report of Geological Survey.

see beyond this. Non-union coal at lower wages continues to push union coal in the Eastern market. This is particularly true of Central Pennsylvania, Somerset and Connellsville coal.

There will be no general reduction in freight rates on coal this year. Locally many changes may be effected but only, as in pre-war days, by rate hearings and much delay. The Secretary of Commerce, on June 13, expressed the opinion that nothing is going to come of the negotiations between the administration and the railroads looking to a reduction in the freight rate on coal.

BITUMINOUS

Observance of the Memorial Day holiday (Monday, May 30) was responsible for a slump in production during the week ended June 4. The total output, according to the Geological Survey, was 6,835,000 net tons, about 1,325,000 tons less than the output for the preceding week. The daily rate of production, however, underwent little change during the five-day week, the output averaging 1,330,000 tons daily, or about the same rate which has prevailed for the last four weeks. Loadings on Monday and Tuesday of the next week, June 6-11, presage no change in the daily production rate.

The Northern and Middle Appalachians produced 5,273,000 net tons during the last week in May, an increase when

compared with the preceding week of 148,000 tons. The increase is attributed to the heavier Tidewater demand, although considerable tonnage was sent to the Lower Lake docks to be shipped to the Northwest. For the country as a whole the factor limiting mine operations was, as before, lack of demand. Such "no-market" losses amounted to 47.3 per cent of full time, production being estimated at 45.5 per cent of capacity.

Demand is everywhere dragging. Coal Age index of spot prices declined one point to 95 as of June 14. New England is taking little interest in the current market, despite the attractive offers made this week on all-rail coal, which is having a hard time to compete with low-volatiles because of the extremely attractive water rates now in effect. Pocahontas and New River for coastwise sold down to \$5.75 per gross ton f.o.b. Hampton Roads. Spot coal is literally going begging in the Middle West, where choice lots of West Virginia splints sold "under the hammer" for \$1.75 f.o.b. mines last week.

All-rail movement to New England during the week ended June 4 increased on bituminous tonnage but declined on anthracite shipments, as shown in the following table:

Week ended	1921		1920	
	Anthracite	Bituminous	Anthracite	Bituminous
May 14.....	3,298	2,700	3,468	3,251
May 21.....	3,461	3,088	3,050	4,385
May 28.....	3,338	2,898	2,730	4,433
June 4.....	3,067	3,052	3,607	3,562

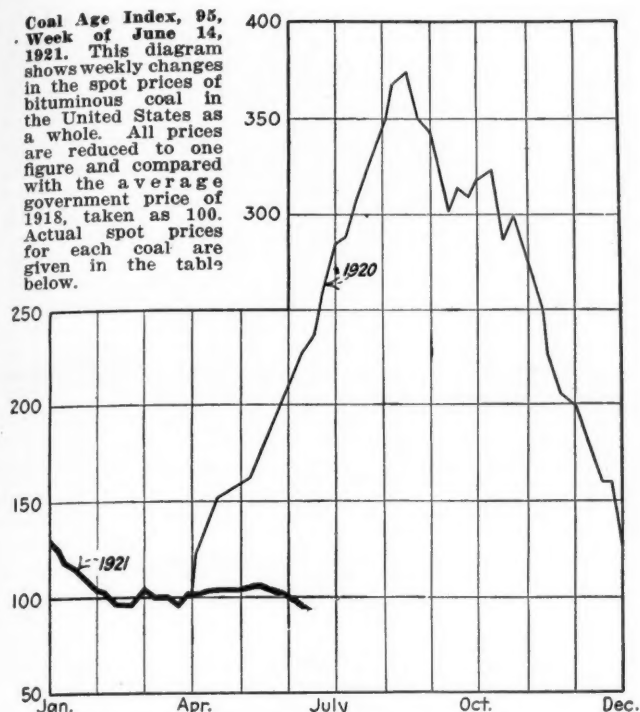
Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F. O. B. Mines

Low-Volatile, Eastern	Market Quoted	1921				Market Quoted	1921			
		May 10, 1921	May 31, 1921	June 7, 1921	June 14, 1921†		May 10, 1921	May 31, 1921	June 7, 1921	June 14, 1921†
Pocahontas lump.....	Columbus.....	\$5.40	\$5.75	\$5.75	\$5.50@ \$6.00	Pitts. No. 8 lump.....	Cleveland.....	\$3.25	\$3.25	\$3.25
Pocahontas mine run.....	Columbus.....	3.50	3.50	3.30	3.35@ 3.50	Pitts. No. 8 mine run.....	Cleveland.....	2.20	2.25	2.30
Pocahontas screenings.....	Columbus.....	3.00	2.70	2.65	2.50@ 2.60	Pitts. No. 8 screenings.....	Cleveland.....	1.65	1.65	1.80@ 1.50
Pocahontas lump.....	Chicago.....	4.00	3.75	3.15	2.75@ 3.50	Midwest				
Pocahontas mine run.....	Chicago.....	4.00	3.75	3.15	2.75@ 3.50	Franklin, Ill. lump.....	Chicago.....	3.75	3.65	3.65
*Smokeless mine run.....	Boston.....	6.15	6.50	6.45	6.75@ 6.15	Franklin, Ill. mine run.....	Chicago.....	3.40	3.00	3.00
Clearfield mine run.....	Boston.....	2.35	2.35	2.35	1.85@ 2.60	Franklin, Ill. screenings.....	Chicago.....	2.85	2.30	2.00
Somerset mine run.....	Boston.....	2.95	2.95	2.95	2.40@ 3.10	Central Ill., lump.....	Chicago.....	3.25	3.00	3.15
Pool 1 (Navy Standard).....	New York.....	3.65	3.45	3.50	3.25@ 3.65	Central Ill., mine run.....	Chicago.....	2.95	2.40	2.50
Pool 1 (Navy Standard).....	Philadelphia.....	3.25	3.35	3.35	3.00@ 3.65	Central Ill., screenings.....	Chicago.....	2.25	1.70	1.65
Pool 1 (Navy Standard).....	Baltimore.....	3.25	3.30	3.30	3.00@ 3.35	Ind. 4th Vein lump.....	Chicago.....	3.50	3.15	3.15
Pool 9 (Super.Low Vol.).....	New York.....	2.90	2.75	2.85	2.65@ 3.00	Ind. 4th Vein mine run.....	Chicago.....	3.40	2.90	2.75
Pool 9 (Super.Low Vol.).....	Philadelphia.....	2.90	2.95	2.95	2.75@ 3.10	Ind. 4th Vein screenings.....	Chicago.....	2.45	1.85	1.75
Pool 9 (Super.Low Vol.).....	Baltimore.....	3.10	3.00	2.95	2.75@ 2.90	Ind. 5th Vein lump.....	Chicago.....	3.25	2.75	3.00
Pool 10 (H.Gr. Low Vol.).....	New York.....	2.45	2.60	2.50	2.25@ 2.60	Ind. 5th Vein mine run.....	Chicago.....	2.70	2.50	2.50
Pool 10 (H.Gr. Low Vol.).....	Philadelphia.....	2.70	2.60	2.60	2.35@ 2.75	Ind. 5th Vein screenings.....	Chicago.....	2.45	1.85	1.85
Pool 10 (H.Gr. Low Vol.).....	Baltimore.....	2.55	2.45	2.35	2.35@ 2.40	Standard lump.....	St. Louis.....	2.40	2.40	2.15
Pool 11 (Low Volatile).....	New York.....	2.15	2.15	2.15	2.00@ 2.25	Standard mine run.....	St. Louis.....	1.90	1.75	1.75
Pool 11 (Low Volatile).....	Philadelphia.....	2.45	2.35	2.35	2.25@ 2.40	Standard screenings.....	St. Louis.....	1.50	1.40	1.15
Pool 11 (Low Volatile).....	Baltimore.....	2.30	2.25	2.10	2.00@ 2.20	West Ky. lump.....	Louisville.....	2.75	2.55	2.55
High-Volatile, Eastern						West Ky. mine run.....	Louisville.....	2.00	2.10	2.10
Pool 34 (54-64).....	New York.....	2.00	2.00	1.95	1.75@ 2.00	West Ky. screenings.....	Louisville.....	1.90	1.65	1.50
(H.Vol. Gas and Steam).....	Philadelphia.....	2.10	2.10	2.05	1.85@ 2.10	South and Southwest				
Pool 34 (54-64).....	Baltimore.....	2.10	1.90	1.85	1.75@ 1.90	Big Seam lump.....	Birmingham.....	3.70	3.65	3.65
(H.Vol. Gas and Steam).....	Pittsburgh.....	2.60	2.65	2.55	2.50@ 3.00	Big Seam mine run.....	Birmingham.....	2.95	2.95	2.60
Pool 34 (54-64).....	Pittsburgh.....	2.10	1.95	1.95	1.85@ 2.00	S. E. Ky. lump.....	Louisville.....	3.90	3.80	3.70
(H.Vol. Gas and Steam).....	Pittsburgh.....	1.75	1.60@ 1.65	1.60@ 1.65	1.60@ 1.65	S. E. Ky. mine run.....	Louisville.....	2.60	2.40	2.35
Pittsburgh se'd. gas.....	Columbus.....	3.50	3.50	3.50	3.25@ 3.75	S. E. Ky. screenings.....	Louisville.....	1.75	1.75	1.35
Pittsburgh slack (gas).....	Columbus.....	2.25	2.25	2.25	2.15@ 2.25	Kansas lump.....	Kansas City.....	5.00	5.00	5.25
Kanawha lump.....	Columbus.....	1.45	1.35	1.15@ 1.30	1.15@ 1.30	Kansas mine run.....	Kansas City.....	4.40	4.25	4.40
Kanawha mine run.....	Columbus.....	3.25	3.40	3.40	3.00@ 3.50	Kansas screenings.....	Kansas City.....	3.75	3.75	3.25
Kanawha screenings.....	Columbus.....	2.20	2.25	2.15	2.00@ 2.25	* Gross tons, f.o.b. vessel, Hampton Roads.				
Hocking lump.....	Columbus.....	1.30	1.20	1.15@ 1.25	1.15@ 1.25	† Advance over previous week shown in heavy type, declines in italics.				
Hocking mine run.....	Columbus.....									
Hocking screenings.....	Columbus.....									

Current Quotations—Spot Prices, Anthracite—Gross Tons, F. O. B. Mines

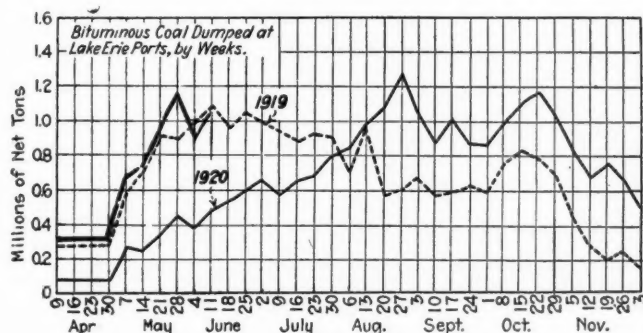
	Market Quoted	Freight Rates	May 31, 1921		June 7, 1921		June 14, 1921†	
			Independent	Company	Independent	Company	Independent	Company
Broken.....	New York.....	\$2.61	\$7.45@ \$7.75	\$7.20@ \$7.75	\$7.85@ \$8.15	\$7.30@ \$7.75	\$7.85@ \$8.15	\$7.30@ \$7.75
Broken.....	Philadelphia.....	2.66	7.90@ 8.20	7.35@ 7.75	7.90@ 8.20	7.45@ 7.85	7.90@ 8.20	7.45@ 7.85
*Broken.....	Chicago.....	5.62	12.65	12.40	12.65	12.40	12.65	12.40
Egg.....	New York.....	2.61	7.45@ 8.35	7.20@ 7.75	7.85@ 8.50	7.30@ 7.75	7.85@ 8.50	7.30@ 7.75
Egg.....	Philadelphia.....	2.66	7.90@ 8.20	7.35@ 7.75	7.90@ 8.20	7.45@ 7.85	7.90@ 8.20	7.45@ 7.85
*Egg.....	Chicago.....	5.62	12.50	12.35	12.50	12.35	12.50	12.35
Stove.....	New York.....	2.61	7.70@ 8.35	7.50@ 8.10	8.15@ 8.60	7.60@ 8.10	8.15@ 8.60	7.60@ 8.10
Stove.....	Philadelphia.....	2.66	8.15@ 8.60	7.70@ 8.10	8.15@ 8.60	7.80@ 8.20	8.15@ 8.60	7.80@ 8.20
*Stove.....	Chicago.....	5.62	13.10	12.70	13.10	12.70	13.10	12.70
Chestnut.....	New York.....	2.61	7.85@ 8.35	7.50@ 8.10	8.15@ 8.50	7.60@ 8.10	8.15@ 8.50	7.60@ 8.10
Chestnut.....	Philadelphia.....	2.66	7.15@ 8.50	7.65@ 8.10	8.15@ 8.50	7.75@ 8.20	8.15@ 8.50	7.75@ 8.20
*Chestnut.....	Chicago.....	5.62	12.85	12.60	12.85	12.60	12.85	12.60
Pea.....	New York.....	2.47	5.00@ 6.00	5.75@ 6.10	6.00@ 6.20	5.85@ 6.20	6.00@ 6.00	5.85@ 6.20
Pea.....	Philadelphia.....	2.38	5.75@ 6.25	6.00	5.75@ 6.25	6.10	6.00@ 6.00	6.10
*Pea.....	Chicago.....	5.62	10.80	10.70	10.80	10.70	10.80	10.70
Buckwheat No. 1.....	New York.....	2.47	3.00@ 3.50	3.50	3.00@ 3.25	3.50	3.75@ 3.00	3.50
Buckwheat No. 1.....	Philadelphia.....	2.38	3.00@ 3.50	3.50	3.00@ 3.35	3.50	3.00@ 3.25	3.50
Rice.....	New York.....	2.47	2.25@ 2.50	2.50	2.00@ 2.25	2.50	1.70@ 2.25	2.50
Rice.....	Philadelphia.....	2.38	2.50	2.50	2.00@ 2.50	2.50	2.00@ 2.25	2.50
Barley.....	New York.....	2.47	1.15@ 1.35	1.50	1.00@ 1.40	1.50	1.75@ 1.10	1.50
Barley.....	Philadelphia.....	2.38	1.50	1.50	1.25@ 1.50	1.50	1.00@ 1.25	1.50
Birdseye.....	New York.....	2.47		2.50		2.50		2.50

* Prices and freight rates net tons; quotations f.o.b. cars, Chicago. † Advances over previous week shown in heavy type, declines in italics.



Two factors are operating against a continuation of the heavy Lake movement. Few cargoes of iron ore are available, which has reduced the number of vessels offering as coal carriers; buying in the interior Northwest is practically at a standstill and coal is piling up on the head of the Lake docks in a manner that threatens to become serious. There is much confusion about the promised adjustment of freight rates off the docks effective July 6. In many cases it has been shown that where a decrease was expected the rate really will be increased. Scarcely any buying activity can be expected until after the new rates become operative, and even then a heavy movement is unlikely. The situation in the Northwest differs little from that in other sections of the country and even the most optimistic coal man fails to see how conditions can support the summer turn-over of dock stocks necessary to absorb shipments of cargo coal in their present volume.

Lake dumpings for the week ended June 13 were 1,029,178 net tons cargo and 26,978 tons of vessel fuel, a total of 1,056,156 tons, according to preliminary reports to *Coal Age*. This season's shipments are 6,886,191 tons cargo and fuel coal as compared with 2,504,000 tons for the same period in 1920 but around 7,000,000 tons in 1919.



Hampton Roads dumpings for the early part of June increased, the additional tonnage going for export. A lively overseas market existed during that period, shippers hastening vessel clearances in order to get tonnage moving before a settlement of the British strike, reported imminent, is effected.

May Tidewater business totaled 3,787,000 net tons, more than 700,000 tons in excess of the April figure. Export activity was practically confined to Hampton Roads, 1,217,000 tons being the figure for that port, or within 200,000

tons of the October, 1920, record. At Philadelphia and Baltimore the export figures were only one-eighth and one-third, respectively, of those of October, 1920.

TIDEWATER BITUMINOUS COAL SHIPMENTS FOR MAY, 1921, COMPARED WITH APRIL, IN THOUSANDS OF NET TONS

Destination	New York	Philadelphia	Baltimore	Hampton Roads	Charles-ton	May Total	April Total
Coastwise to New England.....	103	46	69	360	3	581	633
Exports.....	...	62	253	1,217	27	1,559	825
Bunker.....	339	55	59	408	...	861	805
Inside capes.....	...	164	62	21	...	247	261
Other tonnage.....	514	25	...	539	517
May total.....	956	327	443	2,031	30	3,787	...
April total.....	977	276	356	1,411	21	...	3,041

ANTHRACITE

Production of anthracite during the week ended June 4 showed the effect of Memorial Day, the output being estimated at 1,573,000 net tons, 21 per cent less than during the preceding week. The year 1921 to date is just 2,000,000 tons ahead of last year.

Domestic shipments are being readily accepted but a slump early in July is expected, as buying by householders for storage purposes is the slowest in years. Stove size only is in easy call. Lake loading is limited only to the number of vessels offering. The present problem of the producers is how to keep down the accumulation of steam coals. Unless some way of disposing of them is found soon, slow production will result.

Independents are having no difficulty in obtaining their prices for domestic sizes but are forced to make concessions to move steam coals. Baltimore dealers are still selling at April prices despite the May and June wholesale advances.

COKE

Beehive production continued to decline. The industry is now in a state of almost complete paralysis, with a total output for the week ended June 4 reaching only 62,000 net tons. The decline was general in the East. Small lots of Connellsville spot furnace coke sold down to \$3.10, prices yielding through the efforts of a few operators to keep going. Demand for spot foundry coke is still more limited, the present range of prices being \$4.50@5.

Estimates of Production

FROM THE WEEKLY REPORT OF THE GEOLOGICAL SURVEY
(NET TONS)

BITUMINOUS COAL

Total Bituminous, Including Coal Coked

	1921		1920	
	Week	Calendar Year to Date	Week	Calendar Year to Date (a)
May 21 (b).....	7,989,000	152,459,000	9,246,000	198,181,000
Daily average....	1,331,000	1,273,000	1,541,000	1,647,000
May 28 (b).....	8,160,000	160,619,000	9,568,000	207,749,000
Daily average....	1,360,000	1,277,000	1,595,000	1,645,000
June 4 (c).....	6,835,000	167,454,000	9,141,000	216,890,000
Daily average (d)	1,330,000	1,277,000	1,660,000	1,648,000

(a) Less 2 days' production during first week in January to equalize number of days covered for the last two years. (b) Revised from last report. (c) Subject to revision. (d) Rate per working day based on the production reported on the 5 working days, disregarding Memorial Day.

ANTHRACITE

	1921		1920	
	Week	Calendar Year to Date	Week	Calendar Year to Date (a)
May 21.....	1,794,000	35,585,000	1,847,000	33,726,000
May 28 (b).....	1,988,000	37,573,000	1,885,000	35,611,000
June 4 (c).....	1,573,000	39,146,000	1,536,000	37,147,000

(a) Less 2 days' production during first week in January to equalize number of days covered for the last two years. (b) Revised from last report. (c) Subject to revision.

BEEHIVE COKE

Week Ended		1921		1920 (c)	
June 4	May 28	June 5	to Date	to Date	to Date
1921 (a)	1921 (b)	1920			
62,000	68,000	412,000	3,191,000	9,354,000	

(a) Subject to revision. (b) Revised from last report. (c) Less 2 days' production during New Year's week to equalize number of days covered for the last two years.

Foreign Market And Export News

Hampton Roads Clearances and C. I. F. Prices

The following vessels cleared this port last week with coal cargoes:

Br. SS. County of Cardigan, for Falmouth, 3,917 tons, Br. SS. Copenhagen, for Italy, 6,130 tons, Br. SS. Penmount, for Gibraltar, 3,259 tons, Fr. SS. Cambroune, for Nantes, 4,417 tons, Ger. SS. Lauterfels, for Naples, 4,849 tons, Grk. SS. Iolcos, for Argentina, 6,780 tons, Port. SS. Vernao Velosa, for Argentina, 5,862 tons, Swed. SS. Lombardia, for Havana, 2,480 tons, Am. SS. Mundelta, for Tiburon, 7,115 tons, Am. SS. Mitchell, for Falmouth, 6,987 tons, Am. SS. Schr. Jere G. Shaw, for Bermuda, 1,073 tons, Br. SS. Homecliffe, for Gibraltar, 6,663 tons, Br. SS. Cramond, for Brazil, 3,980 tons, Du. SS. Admiral de Ruitjer, for Rotterdam, 7,396 tons, Jap. SS. Nankai Maru, for Genoa, 5,981 tons, Nor. SS. Hesperos, for Italy, 6,833 tons, Nor. SS. Erie, for Italy, 6,848 tons, Am. SS. Sewall's Point, for Queenstown, 6,979 tons, Br. SS. Nile, for Italy, 7,525 tons, Br. SS. St. Patrick, for Queenstown, 6,134 tons, Br. SS. Ethel Radcliffe, for Queenstown, 7,976 tons, Grk. SS. Cephalonia, for Argentina, 6,992 tons, Br. SS. Portgwarra, for Las Palmas, 2,522 tons, Br. SS. Maritime, for Montevideo, 6,336 tons, Br. SS. Darnholme, for Buenos Aires, 4,846 tons, Grk. SS. Evros, for Azores, 6,839 tons, Ital. SS. San Rosore, for Genoa, 4,885 tons, Br. SS. Competitor, for St. Vincent, 5,247 tons, Br. SS. Justin, for Brazil, 1,049 tons, Ital. SS. Fiume, for Italy, 8,409 tons, Am. SS. Mosella, for Falmouth, 7,407 tons, Am. SS. Western Knight, for Hawaiian Islands, 6,755 tons, Am. SS. Castletown, for Iceland, 3,695 tons, Br. SS. Ferngarth, for Queenstown, 7,069 tons, Am. SS. Panaman, for Alexandria, 8,151 tons, Fr. SS. Buda, for Argentina, 4,725 tons, Br. SS. Falls City, for Queenstown, 6,953 tons, Grk. SS. Olympia, for Haifa, Palestine, 6,289 tons, Am. SS. Anaconia, for Marseilles, 7,753 tons, Jap. SS. Glasgow Maru, for Falmouth, 7,022 tons, Nor. SS. Belita, for Kingston, 785 tons, Du. SS. Randwijk, for Falmouth, 3,728 tons, Br. SS. Bradford City, for Queenstown, 7,020 tons, Br. SS. Collegian, for Liverpool, 7,063 tons, Br. SS. Lord Londonderry, for Belfast, 3,976 tons, Am. SS. Sherman, for Peru, 2,490 tons, Am. SS. William A. McKenny, for Falmouth, 7,442 tons, Br. SS. Otarama, for Liverpool, 3,008 tons, Br. SS. Norman Monarch, for Alexandria, 6,432 tons, Am. SS. West Celine, for Falmouth, 6,484 tons, Br. SS. Berwindvale, for Havana, 3,015 tons, Br. SS. Hyantes, for Funchal, 3,409 tons, Br. SS. Siberian Prince, for Queenstown, 7,876 tons, Am. SS. Franklin, for Falmouth, 6,832 tons, Br. SS. Megna, for Queenstown, 7,224 tons, Am. SS. Waterbury, for Falmouth, 7,006 tons, Am. SS. Summerleaf, for Havre, 7,058 tons.

C. I. F. prices reported on coal cargoes to important foreign ports from Hampton Roads last week were as follows: United Kingdom, \$12.40@13; Italian ports, \$12.65; French Atlantic ports, \$12.15; Scandinavia, \$13.40; South American ports, \$11.40; River Plate, \$11.40; Havana, \$8.65.

British Coal Output and Costs

Great interest has been aroused over Lord Londonderry's amalgamation scheme for British coal owners, but on the whole it is looked upon with disfavor. The Monmouthshire and South Wales Coalowners' Association, in condemning the scheme, recalls some of the more salient facts concerning outputs, costs and exports under private enterprise before the war. Between

1889 and 1913 the production of coal per annum increased from 176 to 287 million tons, the returns for the principal districts being as follows:

	1889 tons	1913 tons
South Wales.....	28,000,000	57,000,000
Durham	30,000,000	41,000,000
Derbyshire	10,000,000	18,000,000
Scotland	23,000,000	42,000,000

It will be seen that in some of the coalfields the production in these 25 years was doubled. And for the country as a whole it showed an increase of 63 per cent. At the same time the cheapness of coal production increased British exports of coal from 27 million tons in 1889 to 73 million in 1913.

Costs increased by leaps and bounds when the industry was removed from the control of private enterprise and brought under the centralized direction of the State. The increase in costs under State control has been as much as 30s. per ton in four years. In 1889 the wages cost was 4s. 2d. per ton; in 1913 it was 6s. 4d. or an increase of over 2s. 2d. per ton. Costs, other than wages and royalties were 1s. 5d. per ton in 1889, in 1913 this figure was increased only by 5d., making 1s. 10d. per ton. The pithead price in 1889 was 6s. 4.20d. and in 1913 10s. 1.52d.

On the question of separate undertakings it is pointed out that there are only 870 which employ more than fifty men; the other 530 employ less and are nearly all small levels and not pits.

RAPID ACCUMULATION OF STOCKS of coal at French collieries and ports has prompted the authorities to consider establishing an organization for the exporting of French coal on a large scale. The administration of the Saar collieries, for instance, is apparently planning to work the Swiss and Italian markets as may be inferred by their establishing a propaganda and sales bureau at Milano while another agency is to be set up at Basle (Switzerland). It appears that despite operating the Saar collieries on short-time, the monthly surplus production is still around 300,000 tons for which an outlet must be found.

THE DUTY LEVIED on the sale of coal from the Sarre mines and which goes to the State of Sarre, has been reduced from 20 to 10 francs.

	Coal		Coke		Briquets	
	1919 Tons	1920 Tons	1919 Tons	1920 Tons	1919 Tons	1920 Tons
Germany.....	772,922	1,078,964	281,237	229,833	3,363	2,507
Belgium.....	1,079,449	30,438	84,501	7,550	199,088	415
England.....	375,544	234,578	37,679	47,466	4,096	7,195
U. S. A.....	663,536	1,416,221				2,000
South Africa.....		20,115				
Canada.....	65,651	182,199				
Other countries.....	89	285	3,667	142		
Totals.....	2,957,191	2,957,800	407,084	284,921	206,547	12,117
Value (1,000,000 fl.).....	138.7	210.0	16.0	15.7	7.9	0.8

New Prices for German Coal

At the instance of the Rhenish-Westphalian Coal Syndicate, an advance in coal prices has been declared. The increases, effective April 1, amount nominally to 23 marks per ton of which 5 marks are to be handed over to the government to provide cheaper food for mine labor. This is the first increase in prices since May, 1920.

TREND OF GERMAN COAL PRICES (In Marks per metric ton f.o.b. truck pit-head)

Grades	Bituminous Coal		
	January 1920	May 1920	April 1921
Rough.....	106.90@108.70	198.70	227.40
Through and through*.....	108.40@110.20	215.40	247.00
Large.....	109.60@111.40	198.40	266.50
Nuts No. I.....	117.70@119.50	238.00	273.10
Nuts No. III.....	117.40@119.20	238.00	273.10
Nuts No. IV.....	116.80@118.60	228.70	262.30
Coking.....	118.10@119.90	202.20	231.80

*Through and through 50% of large applied to coals of 19-25% vol. matter.

Gas and Flaming Coals			
Gas, rough.....	108.70@110.80	224.80	257.80
Gas, flaming, rough.....	107.20@109.30	207.90	238.30
Flaming rough.....	106.60@108.40	198.40	227.40
Large.....	109.60@111.40	232.30	266.50
Half-screened.....	109.00@110.80		
Nuts No. I.....	117.70@119.50	238.00	273.10
Nuts No. III.....	117.40@119.20	238.00	273.10
Nuts No. IV.....	116.80@118.60	228.70	262.30
Nuts small.....	104.80@106.40	194.70	223.10
Small.....	101.80@108.10	202.20	231.80

Non-bituminous Coal			
Rough.....	106.60@108.70	196.50	225.20
Large.....	109.60@112.00	239.90	274.60
Nuts No. I.....	121.90@124.90	268.00	308.70
Nuts No. III.....	118.90@124.90	251.10	300.40
Nuts No. IV.....	114.70@118.60	228.70	262.30
Anthracite nuts.....	125.50@127.30	262.50	301.30
Anthracite nuts.....	127.30@132.70	298.10	342.40
Rough, small.....	104.20@107.20	194.70	223.10
Small, less than 0.4 in.....	100.00@105.10	187.10	214.30

Coke			
Blast furnace.....	155.00@156.20		
Foundry.....	155.60@157.40	300.20	344.20
Crushed.....	175.90@178.90	340.50	394.20

Briquets			
Briquets.....	147.10@151.90	361.60	375.60

Holland's Coal Trade in 1920

In 1920, according to the *Colliery Guardian*, 195,040 tons of coal were consumed by vessels engaged in the internal navigation in the Netherlands, while 486,000 tons, mostly imported, were consumed by the maritime services—including only bunker supplies placed on board at Dutch ports. The prices paid were as follows:

	Bunkers, Fl.	House Coal, Fl.	Imported Coal, Fl.
January.....	43.50	49.00	60.00
February.....	43.50	55.00	60.00
March.....	48.50	57.50	68.50
April.....	57.35	57.50	68.50
May.....	57.00	57.50	68.50
June.....	63.30	64.75	75.00
July.....	63.30	64.75	75.00
August.....	73.15	71.80	83.00
September.....	71.70	71.80	83.00
October.....	71.75	71.80	83.00
November.....	71.75	71.80	83.00
December.....	56.80	62.00	73.00

Imports of foreign coals, according to origin, were as follows:

THE ARGENTINE REPUBLIC is now securing more than nine-tenths of its coal from the United States as a direct result of the British strike, according to a report of the Guaranty Trust Co. of New York. One-tenth of the imported coal continues to be supplied by Great Britain, our chief competitor in the Argentine coal market, because of her control of practically all of the railroads, which furnish 75 per cent of the total demand for coal in that country. American coal exporters have gained an important foothold on the east coast of the Argentine and a return to normal conditions should see a decided strengthening of their position. Argentine coal importers are faced by a serious situation as a result of the policy of the labor unions.

BRITISH INDUSTRIALS ARE BEING slowed down by a continuance of the coal strike. Unemployment is becoming more serious as factories are being closed daily. The iron, steel, and engi-

neering trades are suffering from the lack of coal to an enormous extent. One result of the strike has been a great increase in the use of oil as fuel. Many enterprises are converting their plants into oil burners and declare they will not go back to the use of coal.

RUSSIA HAS PURCHASED several cargoes of American coal which are on their way to Petrograd and other cargoes are being loaded in American ports, according to a statement appearing in the Communist organ *Rote Fahne*. American sources are being sought in order to make up for the shortage occasioned by the non-arrival of English coal.

THE BELGIAN COAL TRADE has reacted to the British situation, and some 50,000 tons have been shipped to ports on the East Coast of England, while there is a strong call for bunker supplies at Antwerp. During April, deliveries of German coal amounted to

257,710 tons, of which 71,366 tons were of the coking variety. The total imports of fuel into Belgium during the first quarter of the year amounted to 1,264,553 tons of coal, 49,760 tons of coke, and 60,601 tons of briquets. Exports in the same period comprised 899,392 tons of coal, 66,840 tons of coke, and 69,718 tons of briquets.

CENTRAL DISTRICTS OF GERMANY have been without coal from Upper Silesian mines for some time, owing to the unrest in the latter section. The shortage of coal supply is having the effect of restricting the traffic on branch railroads which serve to bring agricultural products to the main lines. Many gas and electricity works are also suffering from the lack of fuel.

ACCORDING TO LONDON REPORTS, the German Coal Commissioner has issued a statement denying that export permits for coal to Great Britain will be granted from any German district.

Reports From the Market Centers

New England

BOSTON

Trade Lifeless—Buyers See No Inducement in Present Market—Prices Show Weak Streaks—Anthracite Demand Falls Perceptibly.

Bituminous—There is every prospect the present extreme dullness will continue through the summer months. Trade shows no signs whatever of any real interest on the part of buyers and the average shipper of steam coal has about lost hope of any reaction for a long time to come. The few purchases that are made proceed from a policy of buying very sparingly about three to four months in advance of need. Consumers who are not in position to adopt this practice or who prefer to take chances for awhile longer are in the majority and it is very hard to see how there can be any general buying in New England until well into the Fall.

With operators striving to maintain the low level of prices they were forced to accept for spot coal two months ago and industrial conditions still at a low ebb, the buyer can see no inducement for increasing present reserves. Reports agree that most steam users have on hand from 90 to 120 days' supply at the present rate of consumption, and the railroads are also accepting only light tonnages for the present. There is everywhere noticed a disposition not to tie up money in coal, and until financial conditions are easier the present close-hauled policy is likely to be continued.

Certain of the Pennsylvania shippers have recently made a special drive to sell spot coal. In many cases a new price concession of 25@35c. has been made, but we have yet to hear of coal being placed in any volume. There have been vigorous attempts also to move coal by water because at so many points in this territory within range of Tidewater the cost laid down is so much less than via the all-rail route.

Pocahontas and New River coals have shown a further decline the past few days and once again conditions at the piers disclose a very inactive market. Quotations range \$6@ \$6.15 for Pool 1 coal, and there are rumors of \$5.75 as a quotation on the same grades. The off-shore demand has sagged off and to New England relatively small daily tonnages are the rule.

The trade is somewhat amazed at the report from Washington that the War Department has decided upon the purchase of the Cape Cod Canal for \$11,500,000. The problem there of tide rips has not been solved, and many times there has been recalled the remark of a coastwise commodore of long experience, "In good weather it isn't needed, and in bad weather it can't be found!" Aside from a passenger line and some of the smaller coal barges from New York the traffic is still around Cape Cod the same as before the canal was opened.

Anthracite—Domestic sizes by water are being absorbed about as fast as the coal reaches the piers, but it grows more apparent each day that unless the public gives up the strike on buying there will be coal to spare during July. Dealers say there has not been a sea-

son for years when householders were so loath to put in their season's coal.

The local situation was discussed the past week at a meeting of retailers in Boston with a representative of the state fuel commissioner, but nothing more developed than was already known. It is felt there will be a sharp reaction in the Fall if coal is not moved more rapidly to the consumer.

Tidewater—East

NEW YORK

Steam Coals Worry Producers—Storage Places Filled—Domestic Moving Well—Bituminous Market Slow—Better Grades Moving Quietly—Cheaper Coals Scarce.

Anthracite—The chief cause for worry by the producer and distributor is the problem of how to keep down the accumulation of steam coals. These are increasing in volume until they have become troublesome and unless some way of disposing of them is found soon, slow production will result.

Chestnut and pea sizes are easily moved though it becomes necessary at times to see that purchasers of egg and stove take a portion of their order in either of these two coals. Egg and stove are scarce at Tidewater and along the line, where the demand is just as strong as it is here. Chestnut and pea are in good demand inland and buyers are taking large tonnages.

Independents are having no difficulty in obtaining their prices for the domestic coals. Some shippers are willing to make slight concessions where the buyer takes liberal lots of chestnut and pea sizes. Pea quotations have been reported as much as \$1 below company circular.

Quotations for barley start at 75c. and range to about \$1.10. Buckwheat is also being offered at concessions.

Current mine quotations are shown in the Weekly Review.

Bituminous—Except for the better grades, considerable of which are under contract, there is little doing in the buying line. Good grades are easily obtained but the poorer coals are scarce here. Operators are not sending them to this market except on consignment and buyers are not looking for them when they can obtain the better grades at present prices.

One feature of the market is the buying of the product of individual mines for sample purposes. The tendency to buy individual coals, irrespective of the pools to which they belong, is growing and in some cases the question of analysis is not raised, the consumer looking only for results.

The published announcement that the railroads cannot consider a cut in freight rates at this time and the further announcement that the employees of the roads are not taking kindly to the wage cut ordered, did not seem to have any effect on the market here. The matter of freight rates is believed to have had considerable to do with the retarding of buying but it may be possible the public is awaiting further announcement along these lines.

There were some changes in quotations during the week. Some days demand was better, due probably to smaller receipts, and prices would stiffen slightly, only to go back the next day.

The market is spotty. Offers of good grades at lower than the general run of quotations fail to bring orders. Public utility corporations are buying at low prices but not in large quantities because of their standing contract quotas.

There has been no change in the contract situation. Consumers are not talking contracts and producers and wholesale dealers are doing likewise. Slack was quoted here around \$1.50@ \$1.75, Pittsburgh gas coal at \$2.25, and Westmoreland 3-in. at \$2.90@ \$3.25. Quotations for Pool 9, f.o.b. piers ranged \$6@ \$6.25 and Pool 10 \$5.65@ \$5.85.

PHILADELPHIA

Anthracite Demand Continues to Slacken—No Change in Retail Prices—Dull Summer Likely—Bituminous Market Stands Still—Demand Light.

Anthracite—This week the falling off in demand has been more noticeable and the point has been reached where occasionally the dealers have no business at all. It seems quite likely that the well-to-do class have had their requirements filled.

So far there has been no cessation in mining and the companies have been shipping heavily to the local market, with the exception of stove coal, and even this size is beginning to show improvement. The fact is, we believe, the consuming public has become so dissatisfied with the amount of small sizes in chestnut that they insist on having the larger size. Chestnut for the first time this season is showing a

tendency to accumulate in the yards. Pea continues to be very free.

With the persistent slackening of the retail demand the question is fast arising whether the independent shippers will be able to maintain prices which they established the first of June. It is fully believed that all companies are going to experience some idle time, but of course the big producers will make no effort to move coal by cutting prices, which is a custom of many years standing with them.

While it was generally anticipated that the retail trade will increase prices, it is now thought with the softening of demand they will be satisfied to take present figures, which are, egg \$13.75, stove and nut \$14, and pea \$11. It has been many a year since there was such strong competition for trade, and as the summer wears on some dealers will be doing business on a pretty thin margin, particularly the ones with a big stock of independent coal on hand.

Steam sizes are in a bad position, as the demand does not improve and the smaller shipper is beset to take care of production. Buckwheat is the size moved in greatest volume, but even this is lagging and the companies are compelled to resort to their storage yards to move it, as well as rice and barley.

Bituminous—There are no signs of a strengthening in soft coal and very light sales are the rule. While some consumers pretend to hold off on account of the anticipated freight reduction, this is only a pretext in most cases, and it is simply a question of not wanting to tie up capital in fuel.

We have heard of some improvement in the contract situation in that some large consumers have come under cover, at prices running \$3.50@ \$3.75 for coal of Pool 9 grade. However, even though they have contracts they are ordering little if any coal on them, and the tendency is to buy current requirements at spot prices.

There has been no change of moment in the spot prices and the market still runs from \$2.25, the lowest figure on Pool 11 coal, to \$3.50 for Pool 1. We understand there have been some low prices made recently on gas slack, with quotations of \$1.25@ \$1.50. This is no doubt due to the continued idleness of the iron mills and cement plants in this territory, which are the largest users of this size.

BUFFALO

Market Still Slowing Down—More Mines Idle—Anthracite Quiet—Lake Trade Good.

Butuminous—Demand does not increase. The many consumers from the Montreal district are absent, for the Canadian mines are turning out nearly as much coal as is needed.

This market was never so bare of incident as it is now. If that state of things were merely temporary it might not mean much, but it has been the rule ever since the bulge of last fall

subsided, and it promises to last till the market returns to normal conditions.

At the same time everything is in readiness to resume operations the moment conditions warrant it. There have been no bad failures to demoralize the situation. Business will come back in good time, as it always does. It is going to be some time before bituminous prices will be high enough to insure a profit, for the railroads are able to make such quick deliveries that consumers are safe in running on small stocks. It usually takes a car shortage to make the trade profitable.

Meanwhile prices seem to be at the bottom at \$3.75 for Youghiogheny gas lump, \$2.50@ \$2.75 for Pittsburgh and No. 8 lump, \$2.40 for Allegheny Valley mine run and \$1.75@ \$2 for slack. It is reported that slack is selling in Toronto at \$1.75.

Anthracite—Local trade is dull and it is bound to remain so, for somebody is still circulating the notion that the price is to come down before winter. The coal trade does not believe it and shipping agents say that there is so little profit in the business now that it will soon be found necessary to cut down on special work on this coal, such as careful sizing and removing impurities, to keep from operating at a loss. The consumer cannot be made to see that it is only a part of the coal that can be sold for domestic purposes and that the steam sizes have to be sold far below cost to get rid of them.

Shipments by Lake are fair, being for the week 97,300 net tons. Freight rates continue at 65@ 70c. to Chicago, 65c. to Waukegan, 60c. to Milwaukee and 50c. to Duluth and Marquette.

Coke—The situation is as unfavorable as ever. Nearly all the ovens are shut down and there is no prospect of resumption right away. Judging by the iron-ore movement down the Lakes it does not look as if the furnace companies intend to lay in the usual winter supply. Quotations remain \$4.50 for 72-hr. Connellsville foundry, \$3.50 for 48-hr. furnace and \$3 for stock.

HAMPTON ROADS

Demand Dropping—British Markets Apparently Becoming Stocked—American Ships Moving Better.

Unfavorable indications during the first few days of June appear to have been reversed insofar as the local coal business is concerned. For the first week of June approximately 700,000 tons of coal passed over the piers, indicating that the dumpings for the month, at the same rate, will overstep the 2,000,000-ton mark.

The price of Pools 1 and 2 remained at \$6.25, while Pools 5, 6 and 7 were somewhat stronger, being offered \$5.25 @ \$5.40. The demand for the latter grades during this week has been greater than the supply at all piers.

Few new contracts were made for British coal shipments during the last week. However, a large number of vessels in port are preparing to sail

for the United Kingdom with cargoes already purchased.

American ships are entering the trade, the effect of the strike having decidedly waned. The majority of the shipments during the week went to the British dominions and Italy, with scattered cargoes to the Far East and North.

A comparison of the situation at the coal piers is as follows:

	Week Ended June 2	Week Ended June 9
N. & W. piers, Lamberts Point		
Cars on hand.....	2,053	2,242
Tons on hand (gross)...	97,217	103,947
Tonnage waiting.....	17,550	52,795
C. & O. piers, Newport News		
Cars on hand.....	2,200	1,908
Tons on hand (gross)...	109,660	95,060
Tonnage waiting.....	35,250	69,850
Virginian Ry. piers, Sewalls Point		
Cars on hand.....	1,417	1,561
Tons on hand (gross)...	62,850	72,800
Tonnage waiting.....	35,250	6,350

BALTIMORE

Market Continues Draggy and Prices Are Soft—Temporary Export Lull—Hard Coal Men Subject to Unjust Attacks.

Bituminous—There is not the slightest evidence of snap to the local soft coal market, which continues draggy on both gas and steam lines. Prices are running along the same soft line. The export movement for the first week of June continued well up to the May standard, which was a distinct improvement over the first months of the year, but at this time there is a temporary lull, and on two days of this week no ships were reported at the Curtis Bay piers.

The month, however, is expected to show a pretty fair run for foreign account. The figures for the opening week of June showed a loading on export of 53,157 tons, with 7,979 tons taken by the same ships in bunkers.

Prices on the home market at both spot and contract are weak. In the open market best steam coals are offering \$3 and below. Excellent steam coals running to Pool 9 are at times selling down to \$2.75. Good coals of lower quality are to be had from \$2.15 @ \$2.35, while the poorer class steam runs around \$1.75 @ \$2. Best gas lump is below \$3 also, with the lower grades running pretty well along in proportion to steam prices.

Anthracite—With the hard coal trade here still traveling along April prices despite the May and June wholesale advances, and with ordering very light, the business is more concerned for the moment over a series of unjust attacks in a daily newspaper here. The trade is being charged with forcing prices higher than in Philadelphia and Washington, but the figures given are extremely inaccurate and misleading, and do not give credit for differences in conditions, such as cash discount, delivery to cellars instead of sidewalk, zoning, etc.

The whole thing would be passed over as newspaper piffle if it were not for the fact that a Maryland congressman, playing in the limelight, has asked a grand jury inquiry in Baltimore

on the subject. The trade would welcome any fair and thorough inquiry, but facts and figures supplied in this case to the representative of the paper in question were not used.

Northwest

MINNEAPOLIS

Heavy Lake Movements Avoid Possible Strike Delay—Lack of Interior Demand Is Rapidly Filling Docks—Freight Rate Situation Delaying the Market.

Increased tonnage moving to the Lake Superior docks seems to be too good to last. The rush for the present is stimulated by the effort to get coal moved ahead of any railway labor trouble occurring on July 1, when the wage scale is reduced.

Conditions are not such as to encourage much more after that date unless there is a radical change in the vessel situation. Iron ore tonnage is hardly 50 per cent of that of a year ago. There may be a little extra stimulus now, because of crowding the coal movement, but it will not last long without a change of conditions.

There is an entire lack of interest from buyers. Should there be any great upward movement, it would mean that the docks would soon be filled and there would not be room to take on additional stocks. Of course, the usual movement to the interior starts around July 1, so there may be some relief at that time. But it would certainly help if a reasonable tonnage were moving to the interior during June.

This is hardly to be expected so long as there seems to be a new cause for hoping for lower costs every week. The latest is a report that the Government may urge a summer freight rate reduction as a means of stimulating the coal movement. All present conditions seem to urge delay. There are reductions real and assumed for July 6, and some others less assured. These cause buyers to delay and hope for more reductions than are intimated. With this seasonal rate reduction as a possibility, it means still further delay at a time when things should be speeded, not delayed.

All the gloomy predictions so far made seem to have very little effect upon the buying trade of the Northwest. They seem to feel assured of sufficient coal for their needs at such time as they are ready to place orders. Salesmen cannot see where there is the slightest chance for any further lower prices, but this has no effect upon buyers.

On the other hand, the predictions that unless coal buyers do come forward with usual purchases in the near future there is bound to be serious difficulty later on, are based upon assumptions which are not wholly supported. There is no doubt that a combination of circumstances may cause exactly that situation. But it is equally possible that another combination of circumstances

may entirely prevent it. It is not certain that there will be a big demand from industrial buyers. There has been too much of the emphatic declaration that buyers must order now or all will freeze, only to have later developments show that the most part of it was entirely superfluous.

DULUTH

Heavy Receipts Continue—Dock Congestion Threatens—Interior Market Is Apathetic—Prices Firm.

Extreme dullness prevails, and operators as a whole fail to see much hope for improvement in the near future. Coal continues to pile up on the docks and storage conditions are becoming more serious every day.

Retailers throughout the Northwest are showing apathy in placing orders and contracting is practically at a standstill. Prices, however, continue firm, and wholesalers say that further reductions are not to be thought of.

The high mark set last week in vessel arrivals was equaled this week when 57 ships tied up at the docks. Anthracite receipts dropped, however, only four cargoes arriving during the week. There are 21 cargoes on the way, only one of which is reported as anthracite.

Shipments of coal from the docks during May aggregated 7,833 cars. For the same month last year shipments were 8,444 cars, but at that time the movement was far below normal as a result of the trade being unable to obtain coal.

Mine operators with dock connections are making every effort to ship coal to the Northwest to provide against possible strikes of either railroad men or miners. May receipts aggregate 1,697,600 tons as compared with only 450,900 tons during the same period last year. Anthracite receipts were 176,400 tons and bituminous 1,521,200 tons.

MILWAUKEE

Lake Receipts Continue Heavy—Dealers Endeavor to Stimulate Buying to Make Room for Later Consignments.

The coal market is in a lethargic state, despite the fact that the dock yards were never more lively than they are at present. Coal is piling up and must be moved to make room for more. The coal dealers of the city have joined in an appeal to the public to put in supplies at the earliest possible moment. A constant turn-over is necessary in order to insure a sufficient flow to the Northwest during the season of navigation, as the docks can only hold one-third of the requirements.

With the exception of anthracite, which was advanced 10c. on June 1, prices continue unchanged. Up to this writing 122 cargoes have reached Milwaukee since the opening of navigation, thirty-eight of anthracite and eighty-four of soft coal, the tonnage aggregating 308,512 and 740,585 tons respectively, 1,049,097 tons in all. Total receipts of hard and soft coal last year during the same period were only 366,000 tons.

Inland West

CHICAGO

Market Is Stagnant—Choice Coals Go Begging—Householders Not Buying—Prices Below Cost.

Never was there a time in the history of the Chicago coal market when there were more bargains of first quality to be had, or when buyers were so scarce and so timid. Coal which a year ago today was selling at \$5@6 per ton cannot be moved today at \$1.50. And yet people are inquiring whether or not coal is coming down. To sum the situation up in one short sentence, the public absolutely refuses to buy. Dealers are loaded to the guards, and industries are so doubtful over the future that they refuse to buy coal except for immediate needs, and, as the industrial situation in Chicago is extremely stagnant, it can very easily be understood how small a tonnage of coal is moved.

As an example of some of the bargains offered, this week fifty cars of Chilton West Virginia splint arrived in Chicago on consignment. The shipment consisted of about forty-five cars of 4-in. hand picked block, and five cars of 4 x 2 hand picked egg. The whole fifty cars were sold to a jobber on the basis of \$1.75 per ton f.o.b. mines. As this was a byproduct coal, it is hard to understand why it did not sell for more money, but inquiry disclosed the fact that it had been offered to every steel plant and byproduct company in the territory, and that they were so loaded with coal and so apprehensive relative to the future that they refused to buy.

The coal trade has been very much interested in the recent meeting in Washington where representatives of the government conferred with delegates of the three great branches of the coal industry relative to stabilizing the coal business for the benefit of the general public and the operators. It seemed that part of the meeting proved too acrimonious, and during the course of it, one of the government members threatened the operators with government owned and operated mines unless the operators reduced the price of coal to the public. As practically every operator in the country has reduced his prices, and did so long ago, the idea met with disfavor.

Prices on anthracite are remaining firm although the demand has fallen off to a very marked degree. The reason is because a great many people who have made a practice of purchasing their coal in the spring have come to the conclusion that they will defer buying this year in the hope that they will be able to obtain closer prices later on.

Steam coals remain steady at very low levels. Prices were not reduced any more than they were last week because coal has been sold during the past two weeks at figures considerably below cost. Operators have reached the point where they prefer to close their mines rather than make further reductions.

DETROIT

Buyers Are Still Holding Off—Receipts Are Light—But Little Free Coal Available.

Bituminous—Neither steam nor domestic sizes seem to arouse the interest of buyers and demand continues very light for each. The lack of demand for steam coal is ascribed in part to the fact that consumption is much less than normal, as manufacturing and industrial plants are running considerably below their usual production schedules.

Wholesalers and jobbers find some buyers who indicate a disposition to hold back in the expectation of being able to obtain their supplies at lower prices after the pressure of the Lake movement is relaxed. This theory is not accepted by the jobbers, who insist that lower prices cannot be made while the cost of mine labor and supplies remains at the present level.

Among other consumers there is a feeling that they will be able to provide for their requirements from time to time in the spot market, taking advantage of such "bargain counter" offerings as may come their way. The small volume of present shipments rather interferes with successful operation of this plan. The present delays in buying have the effect of setting forward into a shorter interval the volume of distribution of both steam and domestic coal which should now be well under way.

Ohio lump is quoted at the mines at \$3@3.25, mine run is \$2.15@2.25 and slack \$1.80@1.90. West Virginia lump is \$3.25@3.50, mine run, \$2.40@2.50, and slack \$2. Smokeless lump and egg are offered \$5.40@5.50, mine run at \$3.40 @ \$3.50, and slack \$2.25.

Anthracite—Little progress has so far been made by dealers in distribution of the winter supply. Retail yards are fairly well supplied but orders are delayed.

CINCINNATI

Lake Business Dragging—Some Wage Reductions—Less Distress Coal, but Prices Show Wide Range.

With more coal on wheels than the vessels would absorb, Lake trade is both listless and uncertain. Domestic coals are still in good demand so far as smokeless is concerned, but some Kentucky operators are reducing 25c. on block to encourage more business.

Continued efforts to get miners wages down is being watched here with no little interest. In the big Sandy, Miller's Creek, Harlan and Hazard districts, wage slashes are being made. In Harlan these reductions run from 20 to 25 per cent.

There was less mine run here this week that could be picked up from \$1.65@1.85. Mines were holding it \$2 @ \$2.10. West Virginia lump is \$3.25@3.75, and southeastern Kentucky, \$3.50 @ \$3.75. There still is a disposition to cut on screenings and the general price is \$1.

Smokeless values are practically unchanged. The movement of domestic

was not quite so brisk, but with a Tidewater demand there was no surplus. The price of \$5.75 for lump, \$5.25@5.50 for egg, \$3.50 for mine run and \$2.75@3 for slack was maintained. Some Dry Fork coal from the Pocahontas regions sold down to \$2.25.

Retail prices are affected by the wholesale market. Some of the smaller dealers are offering steam sizes as low as \$5. Smokeless and domestic, however, still hold at former quotations. School board bids have been published and show material reductions over those made early in May.

ST. LOUIS

Storage Buying Has Stopped—Public Waiting for Promised Lower Freight Rates—Steam Market Inactive.

The local situation is developing into a serious proposition for the shipper. Demand is so poor that price will not move standard sizes of any kind. Dealers are not buying because their people expect a reduction in freight rates and figure that coal may be cheaper. This has stopped the buying of all domestic storage coal. Only a little Mt. Olive moves in. Carterville is selling better, but not to the extent that it should.

Prices are cut below the circular to steam users on Mt. Olive and Carterville. One large Franklin County shipper is breaking the market to the steam trade and independents are having a hard time selling as low as \$1 under the association operators.

Yards are loaded with every grade of Illinois coal, as well as anthracite, some smokeless, and coke. Country demand is almost as bad as the city call, there being very little movement. Country steam business is just about on a par with domestic.

CLEVELAND

Congestion at Lower Lake Ports Compels Slowing Down—Season's Lake Shipments Highest in Years—Slack Coal Prices Weakening.

Bituminous—Some recent significant developments in the coal trade in this district make it clear that industrial stocks are getting near the vanishing point in many cases. Only the excessive curtailment of plant operations is preventing a growth in demand, and with the expected rising tide of industrial activities in the Fall some companies may find themselves short of necessary fuel supplies. Last week a large plant dispatched a hurry call to an Ohio dealer for twenty cars of coal for delivery upon the same day. Due to the present state of the trade the dealer was able to obtain the coal and get it to the customer's yard promptly.

This incident merely illustrates the nature of such trade as there is. Users as a rule refuse to buy until compelled by necessity and then only for immediate needs and at bargain prices. Whereas the seasonal pick-up of business in the early Spring caused some concerns to begin to think of their coal supplies, the secondary slump which has struck the automotive and tire

industries has reacted upon the coal trade. These two industries together with the steel industry, which is undergoing the worst depression in many years, constitute the most important coal consumers in this district.

Mines in Ohio are operating at about 60 per cent, and some mines in the Hocking valley have reopened. Slack is decidedly weak and is being quoted \$1.30@1.50. No. 8 mine run is \$2@2.20 while 11-in. lump is \$2.50@3.

Lake—The inability of shippers to get adequate cargo space to carry the large volume of coal flowing to the Lower Lake ports has caused congestion at these ports. As a result the Ore & Coal Exchange has requested that the movement to the Lake be halted until the situation is relieved.

Shipments up the Lakes for the season to June 1 were the largest since 1913. The total was 5,016,586 tons against 5,250,587 tons in 1913. Shipments in 1920 to June 1 were 1,497,304 tons; in 1919 they were 4,714,034 tons, and in 1918 they were 3,902,692 tons.

Receipts of bituminous coal in Cleveland for the week ended June 4 were 965 cars; industrial 735, retail 230 as compared with a total of 1,043 cars the previous week, or a decrease of 78 cars.

COLUMBUS

Lake Trade Fairly Active—Little Else Moving—Uncertainty as to Freight Rates Delays All Buying.

A considerable tonnage is moving to the Lower Lake ports. There is some congestion on the railroads reaching these ports but so far embargoes have not been necessary. The trouble arises over lack of vessels, as the ore trade is dull. The H. V. Ry. has about 5,000 loaded cars awaiting unloading and other roads have large numbers.

The H. V. docks at Toledo have loaded 962,787 tons up to June 4 as compared with 155,440 tons to June 5 of last year. During the week ended June 4 the docks loaded 197,309 tons as compared with 148,823 tons the previous week. The T. & O. C. docks loaded 79,469 tons during the same week as compared with 55,791 tons the previous week, making 240,128 tons for the season.

Dealers are hesitating about placing domestic orders in the belief that freight rates may be reduced. Retail stocks are only fair but are apparently sufficient for the present. Rural dealers are not experiencing much demand, except for threshing purposes. Retail prices are rather strong at previous levels.

Manufacturing is not developing rapidly and where a few plants resume operations others are suspended. The net result is a small consumption of steam grades. Most of the purchasing agents have orders to buy for current needs only and this prevents accumulation of reserves. Mine run is holding up fairly well, but screenings are extremely weak. Screenings sell around \$1.15@1.25 in all of the Ohio producing fields.

South

BIRMINGHAM

Practically No Demand for Steam—Prices Slump—Domestic Buying Fairly Active—R.R. Contract Is Based on Wage Reduction.

The local steam market is very flat and there is no indication of an early improvement. There is little spot buying and the major portion of coal moving is against contracts. Quotations register a decline of 25@75c. per ton on the various grades of steam fuel. These concessions have not as yet stimulated buying, as consumers in the industrial line evidently have sufficient coal in storage to last for some time.

A few municipal contracts have been made within the last week or so and several railroads have closed for fuel for the next year. The Southern Ry. bought 500,000 tons of Big Seam and Cahaba coal, paying \$2.30@2.50 for Big Seam mine run and \$3 for Cahaba, dry, at mines. The Atlantic Coast Line closed for 400,000 tons of Big Seam washed at prices ranging \$2.30@2.45. The Seaboard Air Line contracted for approximately 725,000 tons of Big Seam coal, paying \$2.27@2.50 for mine run and \$2.65 for washed.

The allotment of the Southern to this field was short about 500,000 tons this year, due to some hold-over contracts in other fields. In addition to the 500,000 tons awarded to the outside mines in this district the Southern will secure approximately the same amount from the operations of the Railway Fuel Co., in Walker County, a subsidiary corporation, the total output being taken by the Southern and allied lines.

Black Creek and Cahaba mine run is \$3@3.25, washed, \$3.25@4; Pratt and Nickel Plate mine run \$2.85@3.25, Carbon Hill mine run \$2.50@2.75, washed \$3@3.25; Corona mine run \$2.75@3.25.

Domestic buying continues fairly active, but there is little retail activity. Mine quotations are as follows for lump and nut: Black Creek, \$4.80@5.05, Cahaba, \$4.80@6.65, Carbon Hill, \$3.95@4.25, Big Seam, \$3.55@4, Corona, \$4.80@5, Montevallo, \$6.80@7.

Production is now on the basis of about 175,000 tons per week. This figure will perhaps be slightly increased after July 1 when deliveries begin on new railroad contracts.

LOUISVILLE

Gloomy Steam Business Outlook—Prices Weak—Lake Market the Only Active Outlet.

The general outlook is a bit cloudy. Operators find it is an especially hard matter to sell steam coal. Many plants which formerly used mine run are using little other than cheap screenings now, and not much over 50 per cent of their usual tonnage at that. Gas coal as a whole is holding a better price than

other grades, although byproduct plants are not operating full.

Some operators and jobbers are unable to see much prospect of any real demand for the present, and claim that the longer the domestic consumer waits, the better the price will be later in the year. This may tax production facilities, but it is not expected to swamp railroads in handling, due to the reduction in movement of steam coal.

Although some export business is reported in West Virginia, Kentucky is still without any Tidewater orders, although a few inquiries have been received. Other than Lake movement, demand for prepared has been reduced as a result of retailers having good stocks. Domestic consumers are not buying, although many retailers are granting three to four months credit.

Prices show a good volume of screenings offered around \$1.10, some being as low as \$1. Spot quotations are shown in the Weekly Review.

Southwest

KANSAS CITY

Higher Prices Stimulate Domestic Demand—Steam Market Quiet—Conditions Serious.

Operators made a general advance of 25c. June 1 and this resulted in more orders coming in. The public will not buy on a downward or stationery price but as soon as an advance, however slight is made, buying starts with a rush.

Steam grades continue to be a drag on the market and oil took another drop last week, which did not help matters. A good many operators express the opinion we will have considerable trouble to take care of domestic orders later on account of low demand for steam grades.

Prices are as follows: Arkansas lump \$6.50, mine run \$4.50, slack \$2.50; Kansas lump and nut \$5.25, mine run \$4.25@4.50, mill \$3.85, slack \$3.25; Missouri lump \$4.50, mine run \$3.85, washed slack \$3.85, raw slack \$3.15.

West

DENVER

Heavier Production—Demand Is Still Sluggish—Public Not Storing Coal.

Production during the first week of June came within 35,000 tons of the output of a year ago, which has given operators some encouragement. The output of a year ago rose with phenomenal speed within three weeks, from 220,000 to 285,000 tons and back again to 230,000 tons. Although this year's low mark was recorded in the middle of March, when tonnage had dropped to 120,000 tons, there has been a steady climb since, with a few exceptions.

The mine price is 35@50c. higher now than at the beginning of the stor-

age season, April 1. Buying has not increased much at points within the state. The public seems to disregard the gradual upward trend of prices

toward the regular mine price of \$6.50. There is no marked activity in lignite fields, one reason being that this does not store well.

News From the Coal Fields

Northern Appalachian

ANTHRACITE

Union Election Causes Mine Idleness—Independent Prices Weaker—Resumption of Washeries.

Weakened independent prices have lowered production somewhat. Election of union officials this week was the occasion of some mine idleness and many of the mines were closed down for at least one half a day.

Some washeries in the Northern field are planning to commence operations in the next two weeks. A few of the river washeries on the upper part of the Susquehanna have again resumed.

PITTSBURGH

Much Lake Coal in Cars—Operations Decreased—Slack Hard to Sell—No Byproduct Demand.

A serious congestion of cars at the Lake front and enroute is forcing a sharp curtailment in mining operations. Demand from other quarters, except for gas lump, is smaller than at any previous time. It is commonly estimated that the rail mines are operating at less than 40 per cent, while for the week ended May 21 the reported production was 74.5 per cent, a rate that some factors in the trade do not think was actually attained. The river mines have been closed since the end of April.

Competition of the Connellsville field, which is non-union, is not felt to any great extent in steam coal, but in byproduct the Pittsburgh district shows no demand whatever. If there is any demand for byproduct coal it is probably all going to Connellsville where with the reduced mining scale a price of \$1.75 or less can be made.

Gas coal holds up very well as offerings are relatively limited and demand is fair. Prices show a wide range, according to quality, it being said that \$3 is sometimes obtained, while for some grades it has not been easy to obtain \$2.50. Slack is a drug on the market. We quote spot steam slack, \$1.40@1.50.

EASTERN OHIO

Production Drops, Due to Holiday and Weaker Demand—Screenings in Over-Supply—Industrial Situation Fails to Improve.

Saturation point in the coal trade has apparently been reached. The outstanding feature of the week ended June 4 was a slump of 120,000 tons in output. This was caused by congestion

at the Lake docks and the further fact that May 30 was a holiday. Production amounted to 320,000 tons or 61 per cent of the total rated capacity of the mines for a five-day week. The daily output averaged 64,000 tons as compared with 73,000 tons the preceding week. At least 173,000 tons of production was lost because of "no market." Figures given out by the Pittsburgh Vein Operators' Association indicate that their mines worked 60 per cent of possible work time and produced 61 per cent of rated capacity.

Considerable progress was made in clearances at the Lower Lake docks during the last few days, as operators assisted materially in relieving the situation by curtailing shipments of cargo coal.

Demand in the general trade continues very dull; and with the steel industry operating less than 30 per cent and retrenchment programs now being found necessary in other lines of industry, it is difficult to anticipate when further improvement may be expected. As a result of heavy Lake shipments, large quantities of slack have become the problem of shippers and a number of mines have found it necessary to reduce operations because of this. A softening in spot slack prices has been the inevitable result.

CONNELLSVILLE

Prices Yield Further—No Demand—Another Wage Reduction.

Small lots of spot furnace coke have sold down to \$3.10, the minimum a week ago having been \$3.25. Prices have yielded through the effort of a few operators to keep going but some are now disposed to abandon the effort. On the other hand, it is reported that one operator has made a further reduction in wages, and will not stop at a \$3 price if necessary to maintain his operation. The average operator much prefers to be idle, and is in financial position to do so.

There have been three or four cases of negotiations looking to short term contracts with furnaces, chiefly in the east, but the negotiations seem to have been abandoned, even though a \$3 price was probably quoted to the prospective consumer.

Blast furnace operations in May were approximately the same as in April, but in the past two or three weeks the trend has been downward again with several furnaces going out.

Demand for spot foundry coke is still more limited. Prices have yielded about 25c. on various grades. A little trend is noted in foundries being less

particular than formerly to get the best grade if they can save money by taking ordinary coke. Spot coke is now quotable \$3.10@3.25 for furnace and \$4.50@5 for foundry.

The *Courier* reports production in the week ended June 4 at 12,100 tons by the furnace ovens and 23,260 tons by the merchant ovens, making a total of 35,360 tons, a decrease of 2,620 tons.

UNIONTOWN

Spot Prices Weaken—Trading Confined to Small Lots—Production at Minimum.

Operators apparently are checked at every turn in their efforts to bring the coke industry back to normalcy. They have found it practically impossible to get orders and from the present outlook seemingly there is nothing to do but wait until future consumers of coal and coke so readjust their own businesses that they will find a need for the fuels.

Practically the only business being done in the market end of the coal and coke industry is the few odd sales which operators and brokers have picked up. A new level of \$3.25 has appeared for furnace coke and some sales have been reported at that figure.

Tonnage produced in the region is now so meager that it can hardly be used as a basis for establishing a market. Most operators hold that the prices offered by consumers do not justify production, even at the readjusted wage scale and they seemingly are content to wait until demand returns and favorable prices are quoted. Foundry coke is more active than furnace and prices therefore are more reasonable in the viewpoint of the producer. Foundry coke is quoted \$4.75@5.25.

UPPER POTOMAC

Market Still Dormant—Production Rate Unchanged—Gas Coals Weaker.

There was nothing to stimulate production during the week ended June 4, with the result that only one-third of the mines in the Upper Potomac or Georges Creek regions were in operation.

Prices were virtually unchanged, the best coal moving at \$2.50. Pool 9 was still quoted \$2.75 and Pool 10 about \$2.50. Good gas coal was not bringing more than \$2.25.

CENTRAL PENNSYLVANIA

Operators Discuss Proposed Joint Conference with U. M. W.—Long Period of Depression Seen for Coal Men.

Operators met in Altoona on June 10, with the Central Pennsylvania Coal Producer's Association and the Central Coal Association, for the purpose of considering a joint conference with the representatives of the mine workers of District No. 2. At a secret executive session on June 2, the executive board of the district mine workers decided not to consider the request of the Central Coal Association for a conference until that latter organization had laid aside all generalities and set forth a concrete list of subjects which they desire to

take up at the proposed conference.

At the meeting in Altoona on June 10, the executive committees of the two associations went over the letters and prepared recommendations which will be acted upon later. The operators went on record as strongly favoring the Sutherland amendment now in Congress prohibiting assigned cars.

FAIRMONT AND PANHANDLE

Idleness More Pronounced—Lake and Export Demands Weaken—Prices Soft.

FAIRMONT

Mine idleness was more pronounced during the week ended June 4. The Memorial Day holiday was of course partly responsible for this decrease in production. Lake shipments as well as export tonnage fell off in volume. There was little or no spot demand and even inquiries were less plentiful. Shipments to Curtis Bay did not average more than 50 or 70 cars per day.

NORTHERN PANHANDLE

Conditions were unchanged as compared with preceding weeks. A few mines were managing to send a little lump to Lake points at prices ranging \$2.75@3 and there was also a little railroad tonnage being moved. Demand for commercial fuel, however, was extremely poor and prices remained at the low points registered lately.

Middle Western

MIDWEST REVIEW

No Industrial Improvement—Retail Trade Paralyzed—Steam Market Inactive—R.R. Tonnage Declines.

Conditions in the past week have not altered for the better. There has been a noticeable decrease in the demand for high grade domestic coals. Retail dealers in Iowa, Minnesota, the two Dakotas and Illinois are loaded up with as much coal as their bins will hold and report that the public is taking no interest whatever in fuel, absolutely refusing point blank to buy their winter's supply now, basing their actions on their belief that coal will decline to still lower levels and that freight rates will soon be down.

It is no exaggeration to state that the retail trade in the Middle West is practically paralyzed. The steam trade remains in about the same condition in which it has been for the last month; in other words, with but little demand for coal at any price. There will be no improvement in the steam coal market until a number of problems have been solved. The feeling of uncertainty that permeates the whole territory will have to be dispelled before conditions will improve to any marked extent.

Practically all the large railroads serving the Middle West have already placed contracts for their coal requirements, but these contracts stipulate that the railroads can reduce the volume of tonnage they receive every month to a very modest amount. One

railroad we know of, after cutting its contract requirements with the mines down to a minimum, found in spite of this that it had nineteen hundred loaded cars of coal over and above what it could use or find storage space for. The explanation of this is that business on some of our Western railroads has dropped to a degree unheard of. One large railroad serving this territory has refused to make contracts for its coal until such time as the operators reduce their mine labor.

Operators in the Illinois and Indiana fields do not feel that any reduction ought to be made at this time or until the expiration of the present agreement with the United Mine Workers, consequently this railroad will have to change its policy or buy its coal on the open market from now until next April, which will be rather a dangerous practice. We understand that some of the operators in the East who happen to be on this same railroad are trying to get their mine labor to agree to a reduction, and the railroad in question is doubtless trying to force the operators along its line in Indiana to undertake the same tactics. We have taken the trouble to talk to a number of the largest producers in Indiana, and feel very safe in saying that the consensus of opinion is very much against any reduction in mine labor until the expiration of the present agreement with the United Mine Workers.

In view of the fact that the present industrial situation, so far as the Middle West is concerned, is as bad as it has been since last fall, a number of experts on industrial and economic questions have come forward with the prophecy that the depths of the depression have now been reached, and that conditions from now on will show slow but steady improvement. They claim that conditions fundamentally have improved very greatly and are now on a much stronger and saner basis than they were last year. It is said that the obstacles before us today will be removed after a reasonable time through hard work, cheap production and sound merchandising.

SOUTHERN ILLINOIS

Domestic Demand Slackens—Steam Sizes Impossible to Move—Coal Goes Begging—R.R. Tonnage Declines.

There seems to be a gradual easing up in the movement of domestic coal. Egg is heavy and nut is almost as much of a drug on the market as screenings in the Cartersville field. A little domestic is moving north, but the Southern market and the St. Louis territory is taking practically nothing.

The steam circular has gone to pieces. Independent operators are getting from \$3 up for domestic sizes, but mine run is as low as \$2.50 and screenings, \$1.50. The mines get anywhere from 1 to 4 days a week, but a great many of them are still idle and this is causing much dissatisfaction among the miners. Railroad tonnage is light. The screenings that are piled up at the different mines are causing considerable trouble and

loss on account of spontaneous combustion.

The situation in the Duquoin field is somewhat similar to that of the independent Cartersville operators. Prices are somewhat the same. The Mt. Olive situation does not show any improvement. One and two days a week seems to be the best running time. Steam coal is not moving, excepting on contracts as a rule. A little domestic tonnage is going to the Northwestern market.

The Standard field shows a condition that seems to be growing worse in every respect. Prices are lower than last week and they have been below cost of production for several weeks. Screenings are quoted at 85c., a low figure, and 2-in. lump \$2, with 6-in. lump \$2.35, mine run as low as \$1.65 and nut and egg as low as \$1.75.

The railroad tonnage is light and is not of much assistance in a general way in this field, although the railroad mines are getting better time than commercial operations, which average one or two days per week. It is almost impossible to move screenings, and it is just about as hard to move the other sizes. Such coal as is being moved is scattered through all markets.

WESTERN KENTUCKY

Production Not Heavy, but Prices Being Well Maintained—Southern Market Quiet.

As a result of operators having backed their contract agreements strongly during the shortage period they have secured some new business. One producing company reports that it recently secured an excellent account, and has a well satisfied customer, who quit his old producer as soon as a contract was filled, because of failure to make deliveries under the contract when coal was needed.

Today the lowest quotation heard on western Kentucky screenings is \$1.10 a ton, whereas some of the western Kentucky and West Virginia operators have quoted as low as \$1. The lowest mine run quotation, and that for an inferior grade, was \$1.50, and lowest lump price was \$2.05. A considerable amount of prepared at \$3 was shipped during the past week.

A good deal of western Kentucky coal is moving into Louisville, some going to Michigan, Indiana and the Chicago district, Southern business continuing rather quiet.

Middle Appalachian

LOW-VOLATILE FIELDS

Market Slightly Weaker—Heavy Tidewater Shipments—Screenings Soft.

NEW RIVER AND THE GULF

Production continued heavy in the New River field during the week ended June 4, except on the first day of the week, which was a holiday. Tidewater movement was good and there was also a considerable tonnage shipped to the

Northwest. Slack was still low at \$3, and mine run was quoted around \$3.50.

Winding Gulf production reached fully 70 per cent of capacity, there being only four mines still out of commission. The bulk of the tonnage was moving to Tidewater for bunkering, although Western markets were taking a small amount of prepared sizes.

POCAHONTAS AND TUG RIVER

As a result of less favorable market conditions, Pocahontas production underwent a slight decrease during the first week in June. "No market" losses amounted to about 150,000 tons. Most mines, however, found a market for part of their output at Tidewater and Western domestic demand was holding rather well. Slack was hard to sell and was still off in price.

Tug River conditions were very similar to those prevailing in the Pocahontas region. There was a slight decrease in production as a result of the Memorial Day holiday and also because of poor market conditions. The output was around 100,000 tons, much of which went to Tidewater for bunkering use.

HIGH-VOLATILE FIELDS

Dearth of Orders Continues—Steam Prices Weaken—Lake Orders Fewer, but Constitute the Main Market Activity.

KANAWHA

As orders were barely sufficient to cause a 30 per cent operation during

the week ended June 4, it was not a hard matter to cover the Memorial Day loss of production. Dullness in the spot market continued, about the only tonnage moving being consigned on contracts. Mine run was weak at \$2 and slack touched as low as \$1.35.

LOGAN AND THACKER

There was a heavy production in the Logan region. Even on the Monday holiday the output reached a figure in excess of 40,000 tons. A large volume of coal was moving to the Lake as well as to Ohio River points, largely for storage. Despite the prevailing dullness producers were optimistic as to the near future and their large shipments of storage coal were based on such confidence.

Production declined slightly in the Williamson-Thacker region, not averaging over 80,000 tons, however, this was considered a very satisfactory showing in view of the fact that there had been so much violence in the field recently. Although there was not an active market, yet a fairly large tonnage was being shipped, most of it on contract.

NORTHEASTERN KENTUCKY

Operations were limited to about 30 per cent of potential capacity. As a rule mines did not run more than a day or so during the week as neither demand or prices justified more extensive operations. A few companies were able to put in more time on Lake orders.

Prices were slightly weaker, showing a wider range.

VIRGINIA

Dearth of orders was most marked and there was little spot coal shipped. Even the larger companies with contract orders were able to keep going only part of the time with the result that production did not exceed 80,000 tons. The coke market was still off.

West

UTAH

Coast Trade Improves, but Domestic Market Still Dormant—Uncertainty Over Freight Rates.

So convinced are consumers that prices should and will come down that probably nothing less than a reduction of \$1.50 or \$2 a ton would induce them to buy storage coal now. If the Federal authorities would cease talking about bringing down the freight rates the situation might be helped and many people buy now, but as it is they decide to "wait another month or two and see what happens."

Dealers are working on a \$1.33 margin, having reduced this 25c. a ton and the haulage another 25c. in order to be able to cut the cash price 50c. recently announced. There is one satisfactory feature and that is that the Coast trade has improved and seems to give promise of holding up fairly well.

Kalamazoo Ice & Fuel Co., Kalamazoo, Mich.

Paul C. Sullivan, representing the Equitable Fuel Co. at Fairmont, was in Eastern markets on business during the latter part of May.

A recent visitor in the Huntington market was R. C. Scott, general manager of the Guyandotte Coal Co., operating at Kitchen, W. Va.

Fuel Administration in charge of the railroad fuel distribution section in Washington.

Personals

Charles A. Owen, president of the Tidewater Coal Exchange and head of the Imperial Coal Corporation, is to spend several months in Europe studying coal conditions there in the interest of the American exporter and his own concern.

Robert Magee and A. I. Moses, of the South Eastern Coal Co. of Cincinnati, recently spent a week in the West Virginia mining fields.

W. J. O'Toole, vice-president of the Crystal Block Coal Co., visited the Cincinnati office recently.

The Southern Fuel Co., of Morgantown, was represented in the New York market late in May by R. R. McFall.

W. C. Stephenson, a prominent coal operator of the Pocahontas field, was a recent visitor at the Glen White operation of the E. E. White Coal Co.

L. Ert Slack, special assistant to the Attorney-General of the United States for the prosecution of the coal cases now pending in Federal court, was in Washington recently, conferring with the Attorney-General. Practically all defendants residing outside Indiana have filed suits in their own Federal courts to prevent removal to Indiana for trial before Judge Albert B. Anderson.

W. G. Whildin, manager of the Lehigh Coal & Navigation properties in the Panther Creek District, has resigned and will remove to Michigan. His first service with the company dates back about 35 years, and since the retirement of Mr. Ludlow from the vice presidency two years ago he has been in charge of the Panther Creek Valley operations.

A visitor in the Pittsburgh coal market during the latter part of May was Paul H. Kenner of Morgantown, of the Metropolitan Coal Co.

A recent visitor in the Kanawha region was C. F. Somerville, formerly located in Charleston but now connected with the

Industrial News

Cincinnati Ohio—The Ogle Coal Co. of Indianapolis has opened a branch office in 820 Dixie Terminal Bldg. This company now has four branch offices. H. K. Howard is in charge of the Cincinnati venture.

New York, N. Y.—Whitney & Kemmerer has increased its office space on the sixth floor of 143 Liberty St. by adding two large rooms on the opposite side of the hall to be used by the sales force.

Washington, D. C.—The creation of a Bureau of Supply with a Director to centralize government purchases of supplies, with an advisory contract board composed of representatives of each department to aid in standardization of supplies, elimination of unnecessary grades and varieties, preparation of specifications and award of contracts, is proposed in a bill introduced by Senator McCormick, Ill. It would take over the Government Fuel Yards now operated by the Bureau of Mines and which supplies coal to government departments in Washington.

Obituary

Walter A. Marsh of Pittsburgh, died of pleurisy early this month. Mr. Marsh was general sales manager of the Pittsburgh Coal Co., having been associated with the company since its organization. During the war he served with the United States

The Huntington Coal and Industrial Exposition will be held in the Chamber of Commerce Building, Huntington, W. Va. Sept. 19 to 24 incl. Chairman of committee, Thomas A. Palmer, Huntington Chamber of Commerce, Huntington.

Oklahoma State Coal Exposition will hold its first annual meeting in Henryetta, Okla., June 23, 24 and 25.

American Institute of Mining and Metallurgical Engineers will meet at Wilkes-Barre, Pa., Sept. 12 to 17. Secretary, Bradley Stoughton, 29 West 39th St., New York City.

National Association of Cost Accountants will hold its annual convention at Cleveland, Ohio, Sept. 14, 15 and 16. Secretary, S. C. McLeod, 130 West 42d St., New York City.

Rocky Mountain Coal Mining Institute will hold its summer meeting beginning June 28 at Salt Lake City, Utah. Secretary, F. W. Whiteside, Denver, Col.

Mine Inspectors' Institute of America will hold its twelfth annual meeting at Charleston, W. Va., July 12 to 15. Secretary J. W. Paul, Bureau of Mines, Pittsburgh, Pa.

Illinois and Wisconsin Coal Dealers' Association will meet at Chicago, Ill., July 13 and 14.

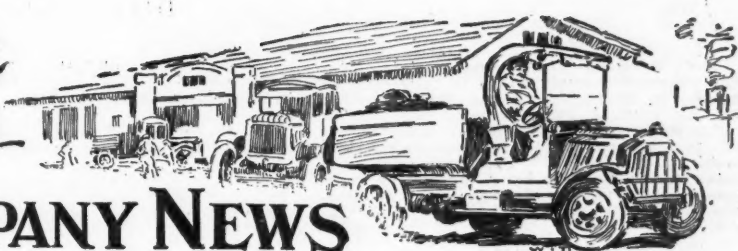
American Society for Testing Materials will hold its annual meeting at the New Monterey Hotel, Asbury Park, N. J., June 20 to 24. Secretary, C. L. Warwick, 1315 Spruce St., Philadelphia, Pa.

The American Mining Congress and National Exposition of Mines and Mining Equipment. The twenty-fourth annual convention on Oct. 17 to 22 at the Coliseum, Chicago, Ill. Assistant secretary, John T. Burns, Congress Hotel, Chicago, Ill.

American Institute of Chemical Engineers will hold its spring meeting June 20 to 24 at Detroit, Mich. Secretary, Dr. J. C. Olsen, Polytechnic Institute, Brooklyn, N. Y.



MINE And COMPANY NEWS



COLORADO

The report of the Colorado Fuel & Iron Co. for the first quarter of this year shows net profits, after taxes, interest, sinking fund and other deductions, of \$505,527. After allowances for the preferred dividend this was equivalent to \$1.59 a share earned on the \$34,235,500 common stock. In the first quarter of last year net profits amounted to \$420,568, equivalent to \$1.11 a share.

ILLINOIS

The McCraney coal mine, two miles east of Coal Valley is again in operation after being closed for a few months. The mine is not employing a full force of men.

Roberts and Schaefer Co., Engineers, Chicago, have just completed the installation of an additional loading boom to the new tippie of the Jackson Coal Co., of Hallidayboro.

INDIANA

The Fort Wayne Corrugated Paper Co. filed suit in Superior Court at Indianapolis recently against the Steel-Kattman Coal Co. and the Linton Collieries Co., alleging breach of contract and asking \$40,000 damages. The plaintiff alleges that it entered into a contract with the Linton Collieries on Jan. 23, 1920, under which the coal firm was to supply between 400 and 450 tons each week for one year. However, after May 27, 1920, no coal was delivered and the Fort Wayne company was forced to go into the open market to purchase coal at higher prices. The suit represents that the Steel-Kattman company entered into a contract by which it became sales agent of the Linton company, Jan. 26, 1920.

Tecumseh No. 1 Mine, near Bicknell, commonly known as the Martin, burned May 25. The loss on top was practically complete, estimated at \$100,000. The mine belongs to the Martin Howe Coal Co., of Chicago, owners of which are William Howe of Chicago, William J. Freeman of Terre Haute, and Valentine Martin of Indianapolis. Another mine owned by the company will handle its contracts until the Martin has been rebuilt.

William Wood, E. C. Evarts and P. O. Collier, all of Terre Haute, have organized what is to be known as the Wood Coal Mining Co., of that city. The company has incorporated under Indiana Laws.

Articles of incorporation have been filed with the secretary of state by the Wabash Mining Co., at Clinton, showing a capitalization of \$10,000 for the purpose of developing coal lands. Directors are Thomas G. Williams, William T. Brooks and Clyde Little.

The National Coal Co., Terre Haute, has filed incorporation papers with the Secretary of State showing a capitalization of \$300,000. The company will engage in the mining of coal and other minerals. Directors are A. N. Sullivan, R. R. Roberts and A. B. Kinsella.

The Linton No. 4 Coal Co., Linton, has filed articles of incorporation with the secretary of state, showing a capital stock of \$100,000. The company will engage in the coal mining business, and directors of the company are Louis Terry, Lueppo D. Bunting and Guy W. Dixon.

The Rock Creek Coal Co., Terre Haute, has filed its final certificate of dissolution with the secretary of state.

A suit for \$300,000 damages, charging breach of contract, was filed in the circuit court at Indianapolis recently by the Panhandle Coal Co. and the Linton-Summit Coal Co. against the Indiana Railways & Light Co. and the Consumers Coal Co. The plaintiffs say they had contracts with the Consumers company to market

the output of some of the mines owned by the plaintiffs in 1920 and that the Consumers company entered into a contract with the Indiana Railways & Light Co., whereby the latter company was to buy 100,000 tons of the coal. After less than 15,000 tons had been delivered the contract was repudiated by the company. They declare that the remaining 85,000 tons provided for in the contract, would have brought them \$297,697.

Oliver Steele has closed a coal land deal by which a tract of 1,800 acres between Paxton and Sullivan has been sold to the Dugger-Martin Coal Co. The consideration was \$35 an acre. A modern mine will be sunk on the tract east of the Chicago & Eastern Illinois R.R. between Paxton and Carlisle.

KENTUCKY

Articles have been filed by the Curtis Coal Co., Madisonville, capital \$20,000; E. F. Guy, I. L. Clark and F. M. Curtis, incorporators.

The Nebo American Coal Co., Nebo, capital \$250,000, has been incorporated by Pearl Bassham, Andy Barton and Gaza Barbas.

Amended articles have been filed by the Elmer-Elkhorn Coal Co., Allen, increasing its capital from \$50,000 to \$75,000.

The Midwest mine, formerly of the Midwest Coal Co., Henderson, taken over by the Southland Coal Co., in a consolidation about a year ago, suffered \$75,000 fire loss recently, when tippie, power house, bunkers and other buildings were destroyed. There were a hundred men in the mines at the time the fire broke out, all of these escaping through the air shaft.

MICHIGAN

Judgment for \$58,461.19 has been awarded the Boehme & Rauch Co., Monroe, in a suit before the circuit court of Wayne County, against John S. Lorimer's Sons Co., Detroit coal dealers. The plaintiff charged that the coal firm neglected to carry out terms of a contract signed in 1917, under which the defendants agreed to supply coal requirements of the plaintiff for five years. The plaintiff was obliged to buy in the open market at prices above the contract figures. The defendants contended that having been unable to obtain sufficient coal for all their customers, they were justified in distributing the available supply pro-rata.

MINNESOTA

Two Duluth docks, the No. 4 of the Northwestern Fuel Co. and the Carnegie Dock & Fuel Co., received their first cargoes of anthracite for the year recently. Receipts of hard coal have been so light this spring that dealers are growing apprehensive regarding the possibility of moving up a sufficient tonnage during the summer to take care of the requirements of Duluth and the territory next winter. So far the great bulk of the cargoes that have arrived here have been unloaded at three docks, and some of the others have been unable to slip out even the few orders that have been received from dealers.

NEW YORK

T. R. Phillips, A. R. Hendrickson and E. M. Campbell, all of Brooklyn, are named as incorporators of the Wright Coal Mining Co. recently granted a charter. The new company starts with a capital of \$100,000.

The Morris Run Coal Co., of Manhattan, was recently granted a charter. The company has a capital of \$100,000 and

the incorporators are given as T. S. Barber, B. H. Keller, R. M. Fulforth and C. E. Jones, of Wilkes-Barre, Pa.

Babell Coal & Ice Corporation, of Brooklyn, has been incorporated with a capital of \$2,000,000. The incorporators are given as J. M. Greenfield, Jr., R. W. Mathews and W. H. Callahan, Leventritt, Cook, Nathan & Lehman, of Manhattan, are the attorneys.

OHIO

The office of the Pittsburgh Vein Operators' Association of Ohio, which for some years has been located in the Marion Building, West Third Street, Cleveland, has been removed to 750-754 Leader-News Bldg. The new partners are more centrally located. Michael Gallagher, general manager of the Wheeling & Lake Erie Coal Mining Co., is president of the association and D. F. Hurd, secretary.

The Gem Coal Co., has been chartered with a capital of \$10,000 to mine and sell coal in the Hocking Valley field. Incorporators are W. E. Evans, V. G. Miller, L. E. Aumiller, Cora Miller and Gladys M. Aumiller.

The Brown Bros. Coal Co., has been chartered with a capital of \$160,000 by A. F. Counts, William A. Brown, F. P. Kneen, E. C. Brown and S. M. Berg.

Papers have been filed reducing the capital of the Wolf Run Coal Co., from \$250,000 to \$10,000.

The Philadelphia & Cleveland Coal Co., has filed a complaint with the Ohio Utilities Commission, asking for the privilege of "storage in transit" at the storage yards of the company near Groveport. The Philadelphia & Cleveland Coal Co., has erected a large storage yard at that place, with a capacity of 150,000 tons, operated by steam shovels and loading cranes and it is desired to have the privilege of the \$1.40 rate from the Nelsonville field to Columbus when coal is put into storage. The Hocking Valley Ry. Co., on which the plant is located has steadily refused to permit the storage privilege and still give the through rate. It is pointed out that by granting the "storage in transit" privilege, a number of idle mines in the Hocking Valley can be opened and coal can be stored near Columbus for all emergencies.

Papers have been filed increasing the authorized capital of the Summit Coal & Mining Co., Canton, from \$50,000 to \$100,000.

The Mineral Ridge Coal Co., has been chartered with a capital of \$20,000 to mine coal in the Hocking Valley field. Among the incorporators are J. Hamer and C. E. Campbell.

Papers have been filed reducing the capital of the Daniel Boone Coal Co., from \$575,000 to \$100,000. The company opened several large mines in the Hazard field of Kentucky and the property was taken over by the Maynard Coal Co., of Columbus, about a year ago. The corporation is being continued, however.

PENNSYLVANIA

The English Center Coal Co. with offices at English Center, Lycoming County, has been organized with A. M. Hoagland, Eugene A. Shaffer and J. J. Brandt, all of Williamsport, and Vincent P. Grasso of English Center as directors. The company has applied for a state charter. The company will acquire the 17,000-acre tract of Mrs. Anne W. Penfield. A branch railroad, ten miles long, connecting either Cammal or Hoytville, is planned.

The brick plant of the United Refractories Co. near Connellsville has resumed operations after an idleness of four months. It is planned soon to open the mines of the company.

The Berwind-White Coal Mining Co. has announced cash prizes to occupants of homes in towns of all the Eureka mines in the Central Pennsylvania field as an inducement toward the better appearances of the homes as to improvements and sanitary conditions. The prizes will be awarded on Nov. 1, by a committee composed of Sylvester Lehman, E. H. McKenzie and Blaine Barefoot, all of Windber.

VIRGINIA

The Kentenia Coal Co. is moving its Richmond office to Norfolk, consolidating the forces of the two offices. M. M. Robertson, manager of the Norfolk office, was in Richmond recently, and has been making a tour of West Virginia and Ohio cities.

The Hampton Roads Steamship Co., flying the flag of the Hampton Roads Lines, has been fully organized. Its first sailing was June 17, with a general cargo for Liverpool, the service to be fortnightly from Hampton Roads to Liverpool, London, Antwerp and Rotterdam. W. F. Taylor, of New York, president of the Export Transportation Co., heads the new company, while L. C. Neff, manager of the Export Transportation Co.'s Norfolk office, will be general manager. This line will carry coal cargoes and will also arrange for the chartering of vessels in the coal trade, it is announced.

Suit has been instituted in the U. S. District Court at Roanoke by the Delaware Steamship and Commerce Corporation against the Virginia Iron, Coal & Coke Co., for alleged failure to live up to a contract, it being claimed that the delivery of 60,000 tons of coal is involved and that the alleged damages amount to \$224,000. The action is based on alleged trespass on the case. It is set forth by the plaintiff that an agreement was entered into between the Roanoke company and an Ohio concern on Jan. 16, 1920, under the terms of which the Virginia Iron, Coal & Coke Co. was to ship from its mines near Virginia City, Wise County, 5,000 tons of coal a month.

According to the plaintiff's declaration, the defendant took over the Ohio concern's interests some time later, and it is alleged that although the Virginia Iron, Coal & Coke Co. promised to deliver the coal it failed to live up to the original agreement.

WEST VIRGINIA

Arrangements are in progress for an interesting meeting of the Mine Inspectors' Institute of America, at Charleston, July 12-14. Secretary James W. Paul, has prepared a tentative program, and the completed program will be mailed to the members at an early date. The program will include an address by Jerome Watson, chief Division of Mines of Ohio, on the subject "How best to secure co-operation of miners and operators, in full compliance with the mining laws." R. M. Lambie, chief Department of Mines, West Virginia, will address the meeting on the subject, "Interchangeable certificates of mine foremen and fire bosses between the states." Seward E. Button, chief Department of Mines, Pa., will speak on the subject, "Should flame safety lamps be discarded for electric lamps, except for testing purposes." W. E. Holland, State Mine Inspector, Iowa, will read a paper entitled "How accidents at the working face may be avoided." There will be other addresses of equal interest and each subject will be discussed by the members present.

It is stated by the secretary of the West Virginia Farm Bureau Federation that through their bureau organizations the farmers of Ohio, Virginia, North Carolina, Kentucky, Georgia, Alabama, Maryland, New York, Michigan, Wisconsin, Missouri and the New England States are ready to buy West Virginia coal direct. The county farm bureaus in Berkeley, Jefferson and Greenbrier counties are likewise taking steps toward pooling their coal orders and buying direct. Negotiations had reached such a stage that late in May Mr. McLaughlin started on a trip into the state to take up the matter of immediately placing orders from at least three states with the coal operators of West Virginia.

Operations have been resumed at the plant of the Ashford Coal & Coke Co., on Coal River. This is a new company organized a year or more ago. E. C. Berkeley, formerly with the Winding Gulf Colliery Co., is president of the concern.

During the month of April a total of 10,000 tons was produced at the mines of the Youghiogheny & Ohio Co., in the Coal River field, such a production being beyond the most sanguine expectations of the owners of this property, as the property is only in process of development. E. C. Berkeley is directing the operations of the Y. & O. mines.

Organized with a capital of \$200,000, the Logan-Chilton Coal Co., in which Raleigh County people are extensively interested will engage in mining operations in the Logan County field in the vicinity of Henslawson. Offices of the company for the time being are at Fireco. Active in forming this concern were: J. M. Maxwell and Jessie Fisher of Beckley, W. Va.; W. B. Beale, H. P. Wilson and William McPherson of Fireco.

As soon as a siding now being installed is completed it will be possible for the Belle Coal & Land Co. to begin operations at its plant at Belle, the company being served by the K. & M. The company was organized shortly before the first of the year by Joe Wehrle and associates of Charleston, Mr. Wehrle having been with the Dickinson Fuel Co. prior to organizing the new company, of which he is president.

In addition to continuing the production of Orange byproduct coal obtained from the Cedar Grove seam, the Splint Orgas Coal Co., which has succeeded to the business of the Orange Gas Coal Company at Orange in the Coal River field, is also making preparations to mine coal in the Coalburg seam and in order to improve its facilities is having built a new tipples with shaker screen and other equipment. The company plans to be able to produce coal at the rate of about 750 tons a day. This concern has as its president, A. E. Moore of Charleston.

Traffic News

The St. Paul Gas Light Co., which gets its raw gas from the Minnesota By-Products Coke Co., has petitioned the city council for the continuance of the rate of \$1 which was instituted for six months only, as a substitute for the 85c. rate. The company states that it cannot return to the old rate. The coke company states that it must have substantial relief in order to continue. Despite lower coal costs, it is claimed that the lack of a market for coke and for sulphate of ammonia cuts down its chance of profiting by the reduced cost of coal.

Minnesota railroads have asked the state railroad and warehouse commission for authority to raise their intrastate freight rates on coal to equal the interstate rates for the same distance. They propose to make it effective July 6 when the revised rates on interstate rates become effective. The change would add 7c. to the hard coal rate to the Twin Cities and 27c. on soft coal.

The I. C. C. has authorized the Alaska Anthracite R.R. to issue \$1,500,000 of first mortgage bonds to complete construction of its line which is expected to open up territory containing large coal deposits.

The Kentucky Railroad Commission has held that it has no jurisdiction in the coal cases from Louisville, Newport and Covington, growing out of the increase in rates made by the L. & N. June 16. The commission based its decision on the ground that the case was interstate and was therefore within the province of the I. C. C.

The commission has suspended until Sept. 29 various tariffs which seek to make increases and reductions ranging from 14 to 28c. a ton in rates on anthracite coal from Pennsylvania to points in New York State.

The Central Iron & Steel Co., of Harrisburg, Pa., has complained to the commission against the rate of \$3.88 prior to Aug. 26, 1920, and \$5.28 since that time on bituminous coal from mines in West Virginia to Harrisburg, on the ground that the rates were unreasonable. He asks for rates of \$1 prior to Aug. 26, 1920, and \$1.40 since, and refund of charges on shipments above those rates.

The Lincoln (Neb.) Chamber of Commerce in a complaint attacks as unreasonable the reconsignment and diversion rules and charges on coal.

The Central Cypress Co., of Centralia, Fla., attacks as unreasonable rates on coal from points in Kentucky and Alabama to Centralia by reason of the increases under General Order No. 28 to each factor of the combination rates, and requests reparation.

The railroads have indicated their understanding of the order of the Interstate Commission in the Holmes & Hollowell Co. case is to allow an increase of interstate rates to the same amount as is charged for the same distance in interstate traffic. This would increase hard coal rates to the Twin Cities from Duluth or Superior by seven cents from \$2.29½ to \$2.36½ and on soft coal by 27c. to \$2.16. This will practically absorb the entire saving gained by the order reducing Lake and rail freights 28c. A vigorous effort will be made to prevent the change from being authorized on that basis.

Representative Ward, of N. C., has presented to the House a memorial of the North Carolina legislature relative to a trans-continental railroad running from the coal fields of Tennessee to Southport, N. C., and for a 30-ft. channel in the Cape Fear River from Wilmington to Southport.

In the case of the Little Cahaba Coal Co., of Piper, Ala., the I. C. C., decides that the rate on coal from Piper, Ala., to Graceland, Ala., during Federal control of railroads was not unreasonable.

There has been a revival of the report that the Kanawha & Michigan and Virginian railroads have entered into traffic alliance covering the handling of coal and other freight and that a connecting bridge at Deep Water may be built to make the arrangement effective. Such union of interests as to coal hauling would be greatly to the advantage of the coal industry along the K. & M. as it would afford the mines along the north side of the Kanawha River an Eastern outlet for their coal.

The Southern Ohio Power Co. of Floodwood, Ohio, in a complaint to the I. C. C. alleges that the switching charge of 20c. and a minimum of 25 tons per car on shipments of coal at Floodwood is unreasonable. A refund of \$9,569 is requested on former shipments.

In the complaint of the Dewey Fuel Co., the commission decides that the rate on coal from mines in Kentucky in L. & N.

group No. 1 to Jackson, Mich., is not unreasonable.

The Southern Ry. Co. has followed the lead of the L. & N., announcing reductions in coal freight rates to Lexington, and increases in rates to Cincinnati and Louisville, from southern Kentucky and Tennessee mines. The new rates are 22c. lower to Lexington, but show an increase of from 31 to 54c. depending on grade, to Louisville; and 37½ to 43½c. to Cincinnati. Protests have been filed by the Louisville Board of Trade, Cincinnati Purchasing Agents' Association, Southern Appalachian Coal Operators' Association and other organizations against proposed increases as announced by the L. & N. Newport and Covington interests have filed protest with the Kentucky State Ry. Commission charging discrimination in rates from the Hazard field to Newport, as compared with rates to the Lake.

Association Activities

Northern West Virginia Coal Operators' Association

There was a meeting of the board of directors of the association at Clarksburg on May 31, followed by a meeting of the advisory board. Preceding the meetings directors of the association were the guests of the Clarksburg Coal Club, several members of the club being called upon for remarks.

When the advisory board met, there were several operators present who had labor disputes to present, the board adjudicating all grievances presented to it.

At the meeting of the board of directors there was added to the special committee of the board appointed to handle the Ohio rate case, W. L. Andrews, of the Consolidation Coal Co. Full authority was delegated to the special committee by the directors to retain such counsel as might be necessary and to report such action to the board. The interest of all operators in West Virginia in this particular case will be looked after by E. J. McVann.

It was decided to co-ordinate all efforts with other associations in the state and to take no individual association action unless the Interstate Commerce Commission should make a change in existing differentials within the state.